[JOURNAL]

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Journal of Education,

CONDUCTED BY A

COMMITTEE, APPOINTED AT A MEETING OF TEACHERS

UNDER THE

COUNCIL OF EDUCATION.

VOLUME I.

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PREFACE.

In presenting the volume which we have now completed, we feel constrained to express our gratification that our first year's efforts have proved so successful. Whether our readers are alike satisfied, we, of course, are not in a position to judge. We can only say that our subscription list continues to increase, and the expression of opinion, so far as it has reached us, is very encouraging. If what we have laid before our readers from time to time, has occasionally failed to convey the amount of instruction and profit which we desired, it has not been owing to any want of anxiety on our part to supply the best intellectual fare that we could produce. We have constantly had before our mind the fact that this journal was designed to be principally devoted to the Teaching profession. The subjects we have selected are such as we hoped would be most acceptable to teachers who are desirous of keeping abreast of the advancing intelligence of the age. Doubtless, the penetrating eyes of many who have perused these pages, have frequently detected passages that could not be defended while under the ordeal of a rigid criticism: we have only to say we have done what we could in the circumstances in which we are placed; and we can assure our friends there are none more conscious of the defects in many of the papers that have appeared in this journal than ourselves.

When the project was first mooted, a canvass was instituted, not only to ascertain what pecuniary support might be obtained, but what literary assistance could be had from those filling high positions in the great educational institutions of this city. We received promises in all directions. The subscriptions have been even better than we were led to expect; but from gentlemen, whose able assistance we expected, we have not received a single article on any subject whatever. The Committee, under whose management this journal is conducted, so far from feeling discouraged, set themselves the more vigorously to work, and to sustain, at least for *one* year, the task which they undertook. Every article

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THE TEACHING PROFESSION.

Before the Teacher's work can accomplish all the good which as an agent of civilization it is designed to effect, a more distinct recognition of the claims of his office to consideration and respect is needed from the general public. Men of culture already regard the functions of the Teacher of a Primary School as highly important to Society and to the State, and many leading members of the profession in its higher departments have evinced a generous disposition to help their humbler brethren to rise in public estimation. But hitherto the public generally has appeared to regard the schoolmaster's occupation with some amount of contemptuousness not grateful to the spirit of a man proud of his profession and devoted to his work.

But while it is desirable that the public estimate of the importance and value of the Teacher's duties should be raised, it is also necessary that those duties should be discharged by men of undoubted competency and efficiency. It behoves Teachers, therefore, to promote their own interests by adding to their claims to be regarded in this light. The principal object of the Australian Journal of Education will be to assist Teachers in improving their qualifications. It will furnish them with advice and information upon such matters of School management as may seem to require elucidation or direction. In this part of our duty we shall be animated by no narrow views, nor be restricted by ungenerous prejudices. On the contrary, we shall be guided by broad principles, and aim at determining questions relating to this subject on general grounds alone. There will be no partisanship as regards particular methods; but every topic in connection with the Art of Teaching will be discussed upon its intrinsic merits. By this course we hope to find our Journal valued by Teachers as a judicious counseller, and trusted as a disinterested authority. At the same time, our opinions on matters of general interest to the profession will be expressed freely and honestly, but, we hope, in a manner which will preclude any reasonable person from taking offence.

Young Teachers will probably derive benefit from advice as to the best mode of studying—as well as of teaching—subjects with which they are not familiar. To this department of our

Journal considerable prominence will therefore be given, and the co-operation of gentlemen of the highest ability has been promised for this purpose. We have begun with a paper on the Analysis of Sentences, that being a subject new to some of our readers, and requiring greater simplicity of treatment than can be found in the ordinary text books.

At the present juncture, some hints on the best mode of dealing with Examination Papers and examples of correct answering may not be without value, especially to Teachers who are unacquainted with the nature of this ordeal, and therefore somewhat diffident as to their success.

By the Intelligence we shall be able to supply respecting the progress of education, we hope to place our readers in possession of valuable information respecting scholastic matters in the Australian Colonies, Europe, and America. Our inquiries will not, however, be restricted to these places, but will have reference to all countries in which a regular system of Public Instruction has been organised. The means of comparison thus afforded as to the effectiveness of the arrangements in force in different countries for the promotion of education will, it is hoped, be useful, and enable Teachers to estimate their own position correctly.

A Teacher must not only be thoroughly acquainted with the special subjects he is required to teach, but he should also possess extensive and varied information on matters of general interest. What is called "general information," provided it be supplemented by exact knowledge of technical subjects, is one of the most valuable qualifications he can acquire. It gives breadth to his views, and enables him to grasp, in a more comprehensive manner, any question he may be called upon to discuss. For these reasons, brief notices of Scientific, Social, Sanitary, and Industrial matters, will be introduced; care being taken that they shall bear as closely upon the Teacher's work as their nature will permit. The Geographical notices promised in the prospectus, will have the same object, and their introduction will be justified by the same considerations.

In giving Notices of Books we shall be guided by the ascertained wants of Teachers, and no book will be recommended for their use, unless it can be implicitly trusted, or a distinct warning be given as to the points in which it is unreliable.

Many of the topics treated of in the Journal will no doubt be calculated to evoke discussion; and one of the great advantages we hold out to Teachers is the opportunity for the free interchange of thought. Subject to the usual precautions, the expression of opinion will be perfectly unrestrained; but care will be taken that the language in which the views expressed are clothed shall be unexceptionable. Undue license in style or impropriety of statement would be inimical to the best interests of the profession; and no communications will, therefore, be received which, either in matter or language, offend against good taste or right feeling. Subject to these restrictions, we shall be glad to find Teachers frequently avail themselves of the facilities afforded by our columns for ventilating opinions on all matters connected with schools and teaching.

The remaining departments of our Journal will give Teachers information on minute points respecting which they may need assistance. The solitary student may thus find his path cheered and enlightened by the aid of his fellow-teachers, and they in turn may add to their own knowledge and strengthen their own powers by the mental exercise which the consideration of such topics requires.

We hope that Teachers of all classes may find in this Journal some points of interest; that those who have it in their power will instruct; and that those who desire to learn will freely make known their wants. The spectacle of a profession whose members are thus at once self-reliant and mutually supporting, will not be lost in the eyes of that Public whose good opinion it is one of our aims to conciliate.

SUPERANNUATION.

In past years the necessity for establishing a Superannuation Fund for the benefit of Teachers employed in schools supported by the State, has been frequently commented upon, and numerous plans for the working out of such a scheme have been suggested. The conviction of the desirableness of at once instituting some measure for providing Teachers with the means of support when by reason of age or infirmity they have become incapacitated for the performance of their duties, is, we believe general, and the recent union of Teachers into one body under the Council of Education seems to offer a favourable opportunity for giving practical effect to this long-cherished hope.

It would be improper to conceal the fact, however, that the question is surrounded with difficulties. A clear and explicit statement of the more formidable of these difficulties may at this stage be found most useful, and may exhibit to those who give attention to the subject, a way by which their wishes may be realized.

The first difficulty is to decide whether the State should in some way establish such a Fund, or whether it should be created by the Teachers themselves. The existing Superannuation Act does not apply to Teachers, nor, without additional legislation, could they be included under its provisions. Although the Parliament generally is prepared to view the claims of Teachers with a favouring eye, it is doubtful whether, on other grounds, such an amendment of the Act as is required would be passed by the Legislature. But if it be found impracticable to obtain for Teachers a participation in the benefits of the present Superannuation Act, the question arises whether a new measure, of similar character, and applying to Teachers alone, could be devised. Supposing this to be accomplished, would the Parliament grant a sufficient endowment to provide for claims likely to become chargeable upon the Fund immediately? In the present condition of the finances of the colony, a satisfactory reply to this query is hardly to be expected.

It may be suggested that the Council of Education could establish a Superannuation Fund for the benefit of Teachers in its service. A little reflection however will show that the public funds entrusted to the Council cannot legally be devoted to such a purpose. Even if the legality of such a course were conceded, the Council might not feel justified in taking any step unless under the direct sanction of the Legislature.

Again, there may be Teachers who would prefer to make provision themselves for the time when they could no longer labour. They may dislike the rigidity of the principle which exacts unvarying regularity in the payment of contributions, without regard to the value of money, or the personal convenience of the contributors, and may seek a mode of attaining their object more easily accommodated to their circumstances. Others may be attached to their occupation by no ties but those of temporary self-interest, and may object to payments to a fund from which they anticipate no benefit. Such Teachers may imagine that by instituting a Benefit Society, under careful regulation, they will better preserve their independence, and secure the return of at least a part of their contributions in the event of their withdrawing from the Society.

A Benefit Society would possess this further advantage, that it would enable Teachers to make provision for periods of ill-health or accidents. Many Teachers, we are informed, have secured their families from want, by insuring in the Mutual Provident Society, or similar institutions; but the exhaustion of resources and indebtedness which often result from long sickness, may lead to a serious diminution in the amount that would otherwise be available for this purpose.

These we believe are the principal points to be kept in view in any discussion of the subject. We commend them to the consideration of our readers, in the hope that some practical suggestion may be elicited as to the mode in which the desires of the teaching body may be most effectually met.

ANALYSIS OF SENTENCES.

Introductory Observations.

We believe that no apology will be expected from us for the introduction of a series of articles upon the Analysis of Sentences. Some, no doubt, will argue that the subject has already been exhausted, or, at least sufficiently well treated for all purposes of the student. We certainly have no desire to undervalue that which has been effected by the authors of existing works upon

Analysis; but we still think that there are sufficient grounds for taking up the subject afresh. The following are a few of the reasons which influence us in adopting this measure:—

I. We do not entirely accept all that previous writers upon Analysis have advanced.

II. The works of some are unsuited to the wants of many Teachers. In others, there are defects; which have constantly to be supplied by oral instruction.

III. For the younger Teachers, we think that the subject has not been treated with sufficient clearness.

IV. The following notes were published originally, but in a somewhat modified form, nine years ago; but the work was not continued. It is now resumed by desire, in the hope that it will be carried forward to completion.

1. The Analysis of Sentences consists in resolving them into their primary elements, and in exhibiting the mutual connexion, and dependence of their constituent portions.

2. A sentence, in its simplest form, is the complete expression of a thought.

3. Such an expression usually assumes the form of a statement or affirmation.

4. Statements are of two kinds, namely, Direct and Indirect. Sometimes indeed this difference is expressed by the terms Principal and Subordinate.

5. The *Direct* statement contains its meaning within itself; as, *Plants grow.*

6. The Indirect statement depends for its full meaning upon some other statement, as, The sun; *when he has attained his meridian height*, declines. (The words in italics form the Indirect Clause.)

7. In making any affirmation, there must be two ideas in the mind: first, the idea of the thing respecting which the assertion is made; and second, the idea of that which is affirmed.

8. The simplest statement must consequently contain two parts:—the word, or words conveying the idea about which we assert something, and the word, or words containing the assertion itself.

9. The first of these is called the Subject: to the second, we give the name of Predicate. Thus—

Subject.	*Predicate.*
Snow	dissolves.

10. For the sake of distinction and simplicity, and for reasons hereafter to be shewn, we recognize four species of sentences,—

I. The Simple Sentence.
II. The Combined Sentence.
III. The Complex Sentence.
IV. The Compound Sentence.

11. The Simple Sentence contains *one direct statement only*, as, Water flows.

12. The combined sentence contains *two, or more direct statements*, as, The night darkened; the wind rose; and the rain fell.

Or,

"The way was long; the wind was cold;
The Minstrel was infirm and old."

13. The Complex Sentence contains *one direct statement only*, and *one or more indirect* statements. This is an expansion of the simple sentence. Thus—

"The long-remembered beggar was his guest;
Whose beard descending, swept his aged breast."

"We were now treading that illustrious island; *which was once the luminary of Caledonian regions; and whence savage tribes derived the blessings of religion.*"

14. The Compound Sentence contains *two or more direct statements*, and *one or more* indirect statements. This is an expansion of the Combined Sentence. Thus—

"*I found there a sea*, with billows crested;
And a fisherman, shooting his fishing gear;
And while from the heavy draught he rested;
I asked how long has the sea been here?
He smiled at my question; but thus he spoke"—

The direct clauses are in italics: there are four indirect statements; but two of the four are not fully developed.

15. It will now be seen that the *Simple* and *Complex* Sentences can each have no more than *one direct* statement. The Combined and Compound Sentences must each have at least two. The presence of indirect statements, constitutes, or marks the complex, and compound sentences; and there is no limit upwards as to number, beyond what is imposed by the laws of correct composition. In the compound sentence alone, is the number of both kinds of clause, unlimited, or rather, indefinite, provided it has one indirect, and two direct clauses at least, and is not otherwise too cumbrous.

16. A Clause is a statement forming a member or division of Complex, Combined, and Compound Sentences. Though not in itself a sentence, it contains the elements of one; and it may be erected into a simple sentence separately, if simply deprived of its connection with that sentence to which it was originally related.

17. It is with the classification of these clauses, with their mutual relation and dependence, that "Analysis" has chiefly to deal.

18. The *Indirect* clauses may be resolved into three kinds,—

I. Substantival.
II. Adjectival.
III. Adverbial.

19. The Substantival Clause is one which, in reference to the principal clause, fills the place, and follows the coustruction of a *noun*, as, They told me *that he had arrived.*

20. The Adjectival Clause is one which, in reference to the principal clause, fills the place, and follows the construction of an *adjective*, as, The rivers; *which belong to Eastern New South Wales*, are short in their courses.

21. The Adverbial Clause is one which, in reference to the

principal clause, fills the place, and follows the construction of an *adverb*, as, The Mule stumbled; *as we threaded the pass.*

22. Clauses are said to be co-ordinate with each other; when they are of similar construction, of equal force, and of equal importance.

23. Principal or Direct Clauses only, can be co-ordinate to Direct Clauses.

24. Indirect Clauses, while subordinate to, or dependent upon Direct Clauses, may be co-ordinate to each other.

25. Similar Indirect Clauses however, can alone be co-ordinate, that is, substantival clauses to substantival clauses, adjectival to adjectival, adverbial to adverbial. An adverbial clause and an adjectival clause cannot be co-ordinate, though each in itself subordinate.

26. Every sentence and clause must contain a *finite* verb. This verb is its central point, or leading feature, and without it there can be no intelligibility or definiteness, in the group of words used.

27. A *Finite Verb* is one which is limited as regards its number, person, tense, and mood. Thus, We *live.*

28. The non-finite parts of the verb, or those which are not so limited, are the Infinitive Mood and the Participles. Thus, To *live:* living.

29. A *Phrase* is to be distinguished from a *Clause.* It may consist of two or more words. It does not contain a finite verb; nor does it make sense by itself; but it is placed in the sentence to assist in making the sense clear, or to bring out more fully the author's meaning.

(To be continued.)

EXAMINATION PAPERS.

MANY persons called upon to undergo examination for the first time fail, to a greater or less extent, from a want of knowledge of what may perhaps be termed the mechanical part of the business. Much of the nervousness which such persons complain of may be traced to the same source. The following suggestions may be found useful by those who suffer from either of these causes, and may not be altogether unacceptable even to the experienced Teacher for whom an examination has ceased to have any terrors.

It is presumed that every teacher who expects to be examined has endeavoured to qualify himself by the frequent practice of composition. Writing, according to Bacon, makes an *exact* man, and a written examination tests the accuracy of one's knowledge. Unless some considerable amount of time and labour has been given to this practice, no directions can be of much avail.

Supposing a Teacher to be seated ready to commence the examination, his first proceeding would be to read carefully and deliberately the paper he is about to answer. He will thus learn precisely what he is required to do; and, what is of paramount importance, he will discover which questions he can answer, and which he cannot. But it will frequently happen that some questions refer to subjects with which a Teacher has but a partial acquaintance, or which he has not studied for some time. The proper course will then be to allot a certain portion for answering the questions on known subjects, and devote the whole of the remaining time to those partially or imperfectly known, neglecting entirely those points with which he has no acquaintance. For example, let the following be the Examination Paper to be answered:—

"*Three hours allowed for this paper.*

1. What is meant by the Organization of a School?
2. Define Moral Influence as applied to the government of a School.
3. "A Lesson is not given until it is received." What duty may be inferred from this maxim?
4. Write notes of an Object Lesson on "Calico," for an advanced class."

The Teacher, we will suppose, has never seen an Object Lesson given, and is wholly unacquainted with the proper mode of writing "notes." He has, moreover, but ill-defined notions as to Moral Influence. As he reads the paper of questions he becomes conscious of these facts; and, convinced of the futility of attempting to write upon a subject of which he is ignorant,—and not unmindful of the dishonesty of such a course,—he resolves to omit the question on Object Lessons, and to apportion the time allotted equally between those remaining. He has, therefore, one hour to devote to each of three questions.

The next proceeding is to determine the full and precise meaning of the question—to ascertain all that is comprehended under the term "Organization." He will remember that one branch of school management is generally known by this title, and if he have some rough sheets of paper at hand, he will note down all the various points which appear to belong to Organization. Perhaps he may write down such a list as the following—

Time Tables.
Furniture.
Ink-wells.
Registers.
Schoolroom.
Classes.
Books.
Teachers.

On reading over the list, he will probably observe that it is incongruously arranged. Set in order, the list will appear thus:—

Schoolroom.	*Playground.*
Furniture.	*Apparatus.*
Books.	
Registers.	*Returns.*
Classes.	
Time Tables.	*Programmes.*
Teachers.	*Lesson Registers.*

He will then perceive that the list is defective and will add the various matters printed in italics. As *inkwells* will be included in the larger term apparatus, the word may be dispensed with.

Our examinee is now prepared to deal with the question and commences his answer with a general definition of "Organization."—

> "Organization is that branch of School Management which treats of the arrangements, mostly mechanical, necessary for efficient teaching."

This is very general, and will require to be illustrated by further remarks in detail. But before proceeding to enumerate these details, it may be advisable in this place to mention a few of the cautions which Teachers should observe as to the style of their answers.

1. *Facts* should be stated simply, clearly, and precisely. For examination purposes, any attempt at embellishment would be entirely out of place, and would detract from the value of the answer.
2. *Definitions* should be treated in the same way, precision being the quality most to be desired.
3. Redundancy of expression should be sedulously avoided. If sufficient words are introduced to render the meaning clear, every additional word would be so much surplusage, injuring the quality of the answer and reducing its value in the eyes of the Examiner. *Fine Writing—i.e.*, the use of flowery or grandiloquent language—is a fatal mistake. The Examiner would probably come to the conclusion that the writer who adopted such a style was deficient in good sense, or that he desired to conceal the lack of precise knowledge under vague general expressions or cloudy metaphors.
4. Long and involved sentences are likely to be mischievous. Their meaning is sometimes not readily detected, and they raise a suspicion of half knowledge or indistinctness of thought on the part of the writer. It is not intended by these remarks that Teachers should adopt a new and, to them, unnatural style in their examinations. What is required is that their composition should be clear and definite in meaning. An Examiner can give no value to an answer, the meaning of which he cannot distinguish with certainty.
5. Mere talking about the subject involved in the question is worse than useless. The Examiner marks such writing as *irrelevant*, and therefore *worthless for the purposes of the examination*. If a Teacher is required to describe how he would discipline a school, it is no test of his knowledge or ability if he describe how he would *not* do it. Yet such things are sometimes found in examination papers.

Thus fortified we may now proceed to complete our answer to the first question.

"Organization treats—1, of the various considerations by which the choice of a school site is determined; 2, of the proper form and construction of school-rooms: 3, of the supply of furniture, apparatus, and books ; 4, of the classification, occupation, and registration of pupils ; and 5, of the teaching staff."

Supposing the Teacher under examination to have a full mind, we should expect that he would continue the subject, adverting in detail to all the important points comprehended in the foregoing general statement. For example, he might allude to the necessity for fixing upon a healthy site; central to the population; near to water if in the country, yet removed from danger of flood; and away from noisy thoroughfares if in the town. In explaining the construction of schoolrooms, he would insist upon the necessity for making ample provision for lighting and ventilation, and for enabling the Teacher to see all the pupils at once. The proper construction and arrangement of furniture, the choice of various articles of apparatus, and the principles on which such selection should be made, would next be considered. The number, size, and arrangement of classes, the construction of Time Tables and Programmes, and the mode of keeping Registers and furnishing Returns would then be explained, and the answer would be completed by specifying the number and description of the Teachers required in a school under given circumstances.

Before concluding this part of the subject, it may be well to add a caution or two respecting the style of hand-writing to be employed in examinations. There are two great faults to be avoided. In some cases no attention is paid to the handwriting which, in consequence, is apt to become a mere illegible scrawl, taxing all the ingenuity of an Examiner to decipher, and wasting an inordinate amount of time. Teachers who fall into this mistake must expect to find their replies misunderstood, and perhaps undervalued, from the simple impossibility of discovering what they meant to say. On the other hand, some Teachers take the trouble to copy out their answers after having written them once. This course involves a great waste of time, and brings no adequate return, in the shape of marks, for the labour expended. While we do not counsel utter neglect of caligraphy, we think it would be unwise to make it a principal object of attention. If the writing be distinct and legible, the Examiner will value the paper as highly as if it were copperplate engraving, his business being with the *matter* to be revised.

In connection with this subject, it should be remarked that punctuation is often greatly neglected. The points should be inserted with so much care, as render doubt as to the precise meaning of a passage altogether out of the question.

INTELLIGENCE.

New South Wales.—The University.—The Senate of the Sydney University has passed a series of By-Laws of a most important character respecting Public Examinations. These examinations are analagous to the University Examinations in the mother country. At home, such examinations have proved to be most useful in exhibiting the weak points in the various educational methods and in fixing a higher standard of proficiency than formerly existed. Any measure that will accomplish these objects, and, at the same time, distinguish between the true teacher and the educational charlatan, deserves the confidence and support of the profession. Anticipating from the Junior Examinations much benefit to the cause of education in this colony, we trust our readers will make known the by-laws as widely as possible. By doing so, they will not only assist in carrying out the design of the Senate, but they will at the same time make manifest the worth and honesty of their own teaching. The Senior Examinations are perhaps of greater immediate importance than the foregoing. A person who passes such an examination successfully gives evidence of the possession of a certain amount of knowledge on subjects held to be of great importance, and of the mental culture usually obtainable it is supposed by means of a "liberal education" only. There is, however, a ground of special interest to teachers in these examinations. It has been suggested, we believe, to substitute the Senior Public Examinations for the examinations which teachers are required to undergo to obtain a First-class Certificate under the Council of Education. Many teachers will probably remember that such a scheme has frequently been mooted and regarded as a powerful means of elevating the profession in public esteem, and of adding to the competency of teachers by rendering diligent previous study a matter of imperative necessity. The establishment of any relation between the University, as the highest teaching body in the colony, and the teachers of Primary Schools, would be regarded by us as a decided benefit, and we are disposed to view very favourably the suggestion which we have mentioned. At the same time, the scheme appears to us capable of improvement in some details. For example, the restriction as to the time of holding examinations, the amount of the fees for each person, and the total required before an examination can be held, would operate as powerful dissuasives to teachers not in flourishing pecuniary circumstances. Nevertheless, we hope that teachers will endeavour to prepare themselves for these examinations, whether they are substituted for the Council's First-class Examination or not. It will be no inconsiderable credit to have obtained a certificate from the Senate of the University; and we believe that with a twelvemonth's study, a large number of our teachers would succeed in gaining this honor. The following are the By-Laws:

1. Two Public Examinations shall be held every year; the one to be called the Junior Public Examination shall be open to all candidates under the age of sixteen years; the other to be called the Senior Public Examination shall be open to all candidates who may present themselves.
2. The Public Examinations shall be held at such times and at such places as the Senate may from time to time appoint.
3. The subjects of the Junior Public Examination shall be the English Language and Literature, History, Geography, the Latin, Greek, French,

and German Languages, Arithmetic, Algebra, Geometry, and such other branches of learning as the Senate may from time to time determine.

4. The subjects of the Senior Public Examination shall be those mentioned in section three, together with Trigonometry, Conic Sections, Natural Philosophy, Chemistry, Experimental Physics, and Geology and Palæontology.

5. Every candidate who shall pass either of these Examinations, or such portions of either of them as may be required by the regulations of the Senate in force for the time being, shall receive a certificate to that effect, specifying the subjects in which he shall have passed, and signed by the Dean of the Faculty of Arts and by the Registrar.

6. No person shall be admitted to either of the Public Examinations until he shall have paid such fees as may be required by the Regulations of the Senate in force for the time being.

7. The Professors and Assistant Professors not engaged in tuition, except publicly within the University, together with such other persons as the Senate may from time to time appoint, shall form a Board for conducting the Public Examinations; and of this Board the Dean of the Faculty of Arts, or in his absence the Professor next in seniority, shall be Chairman.

8. At the conclusion of each Examination, the Board shall transmit to the Senate a Report of the result, signed by the Chairman and at least one other Member.

9. Subject to these By-Laws, the Public Examinations shall be conducted according to such Regulations as the Senate may from time to time enact.

GENERAL REGULATIONS.

1. The Public Examinations shall be held annually at the University, in the month of December, commencing on the first Monday after the conclusion of the Michaelmas Term.

2. The fee for admission to the Junior Public Examinations shall be £3, and to the Senior Public Examination £4.

3. No candidate shall be admitted to either of the Public Examinations, unless he shall have notified to the Registrar his intention to become a candidate, specifying the subjects in which he elects to be examined, and shall have paid to the Registrar the required fee, on or before the 16th day of November next preceding.

4. The Examinations shall be conducted by means of written or printed papers, and *vivâ voce*, at the discretion of the Examiners.

5. Public Examinations shall be held at any place within the colony where a person, approved by the Senate, can be found, to conduct the Examination; provided always that the aggregate amount of fees paid by candidates at any such place, shall not be less than £20.

6. Local Examinations, as provided for in clause 5, shall be held at the same time as those at the University, and shall be conducted as follows:—

(*a*) Copies of the papers to be set at the Public Examinations at the University, together with such additional papers as the absence of *vivâ voce* Examination may render necessary, shall be transmitted under seal to the person appointed by the Senate to conduct the Local Examination.

(*b*) Candidates shall write out answers to the questions set, in the presence of the person appointed to conduct the examination, and in accordance with such detailed instructions as may be furnished by the Chairman of the Board of Examiners.

(*c*) The written answers shall be transmitted to the Board of Examiners, who shall examine them, and report thereon to the Senate.

(*d*) The person conducting the Local Examination shall receive such remuneration for his services as the Senate may in each case determine.

7. The Senate may, at their discretion, send an Examiner or Examiners to conduct the Local Examinations at any place within the Colony.

8. The subjects for the Junior Public Examinations shall be those comprised in the following Sections:—

SECTION I.

1. Reading aloud a passage from some standard English author.

2. Writing from dictation.
3. The rudiments of English Grammar.
4. The first four rules of Arithmetic—simple and compound, and the Rule of Three.
5. Geography.
6. The outlines of English History since the conquest; that is the succession of sovereigns, and the chief events of each reign.

All candidates will be required to pass in this section.

SECTION II.

English Grammar and Analysis.—History of England: some period, not exceeding four reigns, to be fixed annually.

Physical and Political Geography.

SECTION III.

Latin.—Passages for translation from portions of the works of Latin authors; such portions to be fixed annually.

Questions on historical and other allusions and parsing.

Easy passage for translation from some other Latin author.

Greek.—Passages for translation from portions of the works of Greek authors; such portions to be fixed annually.

Questions on Historical and other allusions and parsing.

An easy passage for translation from some other Greek author.

A fair knowledge of either of these languages shall entitle a candidate to pass in this section.

SECTION IV.

French.—Passages for translation from some standard work; to be fixed annually.

Passage for translation from some other French work.

Easy English sentences for translation into French.

German.—The examination in German shall be similar to that in French.

A fair knowledge of either of these languages shall entitle a candidate to pass in this section.

SECTION V.

Mathematics.—Euclid, Books I., II., III., IV., and VI. Arithmetic, Algebra to proportion, including surds, and simple and quadratic equations.

A satisfactory knowledge of Euclid, Books I., II., Arithmetic and Algebra to simple equations, without surds, shall entitle a candidate to pass in this section.

Every candidate, in addition to Section I., shall be required to pass in two at least of the remaining sections.

9. The subjects for the Senior Public Examination shall be those comprised in the following Sections:—

SECTION I.

The same as for the Junior Examination. All candidates will be required to pass in this section, except those who hold certificates of having passed the Junior Examination.

SECTION II.

1. English Grammar and Analysis.
   English Composition.
2. Civil, Military, and constitutional History of England during some period not exceeding four reigns; the particular period to be fixed annually.
3. Some standard English work, with philological and other questions arising out of the subject; the particular work to be fixed annually.
4. { Physical and Political Geography.
5. { The outlines of Political Economy.

A fair knowledge of the first of these four divisions, and of one of the others shall entitle a candidate to pass in this section.

SECTION III.

Latin.—Passages for translation from particular works; to be fixed annually.

Questions on historical and other allusions, and Grammar.

Passages for translation from other Latin works.

A passage of English for translation into Latin prose.

Greek.—The examination in Greek shall be similar to that in Latin.

A fair knowledge of either of these languages shall entitle a candidate to pass in this section.

SECTION IV.

French and German.—The examinations in these languages shall be similar to that in Latin, and a fair knowledge of either shall entitle a candidate to pass in this section.

SECTION V.

Pure Mathematics.—Euclid, Bk. I.—IV. and VI. Arithmetic, Algebra, Logarithms, Trigonometry, to the solution of triangles inclusive, and the elements of Analytical Geometry.

Natural Philosophy.—Statistics including the Equilibrium of forces in one plane, the Mechanical Powers, and the Laws of Friction.

Dynamics.—Motion of a particle in a straight line, and projectiles, treated without the use of the Differential Calculus.

A satisfactory knowledge of Euclid, Bk. I.—IV., Arithmetic, Algebra to Quadratic Equations, and Logarithms, shall entitle a candidate to pass in this section.

SECTION VI.

Chemistry and Experimental Physics.

1. Inorganic Chemistry, including the composition of several minerals.
2. Organic Chemistry.
3. Heat, Magnetism, and Electricity, statical and dynamical.

A fair knowledge of either of these three divisions shall entitle a candidate to pass in this section.

SECTION VII.

Geology and Palæontology.

1. Descriptive Geology, including general description, and classification of rocks.
2. General stratigraphical distribution of organic remains.

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10. Every candidate, in addition to Section I., shall be required to pass in two at least of the remaining sections.

11. The names of those candidates who shall pass the Junior Examination shall be arranged alphabetically.

12. The names of those Candidates who pass the Senior Examination shall be arranged in classes, the names in each class being arranged alphabetically. Separate lists shall be made of those who may specially distinguish themselves in particular subjects, and in these lists the names shall be arranged in classes and in order of merit.

13. After the name of each candidate in the above lists shall be added his place of residence, and the school, or other educational establishment (if any) from which he comes to attend the Examination, and the name of his schoolmaster or tutor.

14. The subjects to be fixed annually shall be determined by the Board of Professors in the Faculty of Arts; and the subjects for each year shall be advertised not later than the first day in February of that year, excepting for the current year 1867.

The subjects for the year 1867 shall be determined and advertised as soon as possible.

15. A separate account shall be kept of all receipts and disbursements, on account of the Public Examinations.

16. The fees shall be collected by the Registrar, and paid into the general fund of the University, and shall be appropriated in the first place to the payment of all expenses incurred, including printing, stationery, and fees paid to Examiners, other than the Professors and Assistant Professors. The residue, if any, shall be appropriated amongst the subjects of examination, in proportion to the number of candidates for examination in each; the portions so appropriated to be divided amongst the Professors and Assistant Professors, who shall have examined in those subjects respectively.

RESULT OF THE FIRST PUBLIC EXAMINATION AT THE UNIVERSITY.

The following Candidates have passed the Junior Examination (the names are in alphabetical order,) viz. :—

Anderson, Sydney Grammar School.
Binnie, ditto.
Cope, Mr. Bates' School.
Donaldson, Mr. Pendrill's School.
Kelly, Sydney Grammar School.
M'Lardy, ditto.
P. O'Connor, ditto.
Rutledge, ditto.
Walker, ditto.

The following passed the Senior Examination (the names are arranged alphabetically in the classes) :—

GENERAL PROFICIENCY.

1st Class.

Coghlan, Sydney Grammar School.
Rennie, ditto.
Sly, ditto.

2nd Class.

Curtis, Sydney Grammar School.
R. O'Connor, ditto.

3rd Class.

A'Beckett, Sydney Grammar School.

The names in the following classes are in *order of merit* :—

DISTINGUISHED.

Latin.	*Greek.*	*Mathematics.*
1st Class.	1st Class.	1st Class.
Rennie.	0	Sly.
Sly.	2nd Class.	Coghlan.
Curtis.	Rennie.	Rennie.
	Sly.	

The Grammar School.—The Trustees have passed a series of regulations respecting the establishment of Foundation Scholarships. With the exception of the sixth, these seem well adapted to effect the designed object; but it is to be feared that the requirement of a certificate of poverty will deter the best boys from competing for scholarships. Boys of spirit and self-reliant character are not likely to look with favour upon a rule that requires them to obtain a certificate which virtually brands them as paupers; and such boys, it may be observed, are often the very best and most deserving. The principle involved could easily have been acted upon without giving the appearance of contempt to the boon offered to the poor. We trust this part of the scheme will be reconsidered. The rules in question are the following :—

1. That every year a number of boys, not exceeding three, be admitted by the Trustees to a free education in the Sydney Grammar School, such boys to be entitled—Foundation Scholars.

2. That the Head Master, the Mathematical Master, and two Examiners appointed by the Trustees, form a board, to be called the Examining Board, of which the Head master shall be Chairman, and who shall examine Candidates for Foundation Scholarship, and report the result to the Trustees.

3. That the subjects for examination shall be—

The English Language and History. Geography. Arithmetic.
Latin Grammar. Cæsar de Bello Gallico, Bk. I. Euclid, Bk. I.

4. That no candidate shall be appointed to a Foundation Scholarship, except upon the report of the Examining Board, that he is possessed of more than ordinary abilities or attainments.

5. That at the conclusion of every Examination, the Examining Board shall forward to the Trustees a list of names of those candidates whom they consider eligible, arranged in order of merit, taking into consideration, not only the attainments of candidates, but their ages and abilities also, and the probabilities of their deriving advantage from a liberal education.

6. No candidate, recommended by the Board, shall be considered eligible, unless, he shall furnish evidence which shall satisfy the Trustees that he is under the age of fourteen, and that his parents, or guardians, are unable to pay School Fees.

A Certificate from the Council of Education shall be held conclusive on these points.

7. The Foundation Scholarship shall be tenable for one year, but renewable from year to year, upon the recommendation of the Examining Board.

8. The Head Master shall have the power of dismissing Foundation Scholars for bad conduct, or for irregular attendance.

9. An Examination shall be held annually in the month of December.

Victoria.—Report of the Board of Education for the Year 1866.—This Report was not issued till May 1867, the delay being caused partly by the desire of the Board to place in the hands of the Legislature the latest possible information, and partly by the time of the office staff having been taken up in preparing returns for the Royal Commission. The report shows that in December, 1866, the number of children on the rolls was 62,575 against 64,926 in 1865, and the average attendance 46,331 against 49,218 in 1865. This decrease was caused by sickness, but in 1867 the number had fully recovered; in March, 1867, there were 738 schools in operation, with 69,698 children on the rolls, and 51,915 in average attendance. The per centage of children in the schools to the total population shows 10.82 per cent. on the rolls and 8.06 in average attendance.

Tables showing the number of children presented for examination under the various standards, and the number and per centage of those passed in each subject, are given both for Victoria and England; it appears that the per centage who pass in Victoria is somewhat less than that of England. The number of destitute scholars was 13,721, an increase on the previous year of 3,706. This increase has caused a greater demand upon the funds of the Board.

Calculating by the first half of 1866, the School Fees were estimated at £64,362 1s. 8d.; Local Contributions, £1,126 13s. 6d.; Salaries, £100,776 5s.; Destitute Children, £11,380 10s. 6d.; Results, £23,918 14s. 8d.; Total, £201,564 5s. 4d. These figures give school fees 32.49 per cent., and Government aid 67.51 per cent., showing that the State pays, inclusive of the fees for destitute children, about two-thirds of the whole amount. The advisability of separating the sexes in Common Schools has engaged attention, but no decision has been arrived at on the subject; meanwhile the inspectors have been instructed to inquire whether improprieties have arisen in consequence of the intermixture of the sexes during play hours, and, if so, to report the same in order that any teacher in whose school such improprieties are permitted may be severely censured.

The report states that there is no doubt that the privilege of free education for destitute children is greatly abused, and that the inspectors unanimously recommend the abolition of the payment. The question whether young children of two or three years of age should be admitted into ordinary mixed schools, where there is no special infant training, has been considered, but no order has been made on the subject.

In order that the Board may have material for deciding upon appeale against inspectors' examinations, they have directed that the replies to the questions in writing, arithmetic, grammar, and geography, in every standard above the second, shall be made in writing, and forwarded to their office. No payment is to be made in future for any child unless he shall actually have passed the examination—plea of physical or mental defect not being admitted in any case.

INSPECTION.—The Board wish it to be clearly understood that they are not responsible for the opinions of the inspectors, nor do they feel called upon to adopt their suggestions as a matter of course.

Arrangements have been made for the changing of the districts of the inspectors from time to time, and for holding the examinations half-yearly. The inspectors have to leave in the schools epitome of their reports.

TEACHERS.—During the year 805 persons were examined, of whom 302 were twice examined, giving 1,107 examinations. Of those examined, 598 were teachers, and 207 candidates. Of teachers, 457 failed to obtain any classification, and 182 candidates. Of 182 pupil-teachers examined, 58 were promoted, and 71 failed to obtain promotion; salary was withdrawn from 35, owing to their having failed at two successive examinations, and the reports of 18 are incomplete. Of 37 teachers in training, 17 failed to obtain classification. The Board are of opinion that the teachers now employed in Common Schools are, as a body, considerably superior to those who were employed before the Common Schools Act came into operation. Under the late Boards there were no regular and systematic examinations; a large number of teachers were exempted from examination on production of home certificates, which did not, in practice, furnish sufficient evidence of the holders' qualifications. Under the present Board, all teachers, except those who have a claim for exemption on account of length of service under the late Boards, are required to attend for examination.

In order to extend the knowledge of singing as widely as possible, the following rule has been framed by the Board: "Teachers of schools who are desirous of becoming qualified instructors in singing may, on application to the Board of Education, be admitted as pupils to a course of instruction to be given by a qualified master, half the cost of which will be defrayed by the Board, the remaining half to be paid by the teachers monthly, in advance."

FINANCE.—The amount voted for 1866, was £174,246 13s. 4d.; that estimated to be required for 1867, is £189,400 1s. 8d.

SOUTH AUSTRALIA.—REPORT OF THE BOARD OF EDUCATION FOR THE YEAR 1866.—The schools taught by licensed teachers, under the direction of the Board of Education, numbered at the close of the year 292. The number of licensed teachers is the same as the number of schools. In many instances there are one, two, or more assistants engaged in teaching a school, but the principal teacher only holds the license for such school, and is responsible for its being properly conducted. The licenses granted to teachers are probationary until they have passed an examination in the subjects required to be taught in the schools, and their practical skill in teaching has been duly tested. After this they are classified in accordance with their attainments taken in connection with the ascertained results of their teaching. Teachers producing certificates of having passed examination in England, Scotland, Ireland, or any part of the Australian provinces, are exempted from the examination otherwise required.

Teachers to the schools in general are nominated by Corporations, by District Councils, by the Trustees of School Houses, or by School Committees, subject to the approval of the Board; by which, if the usual tests are found satisfactory, the teacher is duly appointed. In cases of proved misconduct on the part of a teacher, the concurrence of the Board must be sought by the abovenamed parties in order that the teacher's license may be withdrawn. Licenses issued to teachers are renewed annually. Stipends are paid quarterly, and range from £40 to £80 per annum. In adjusting their respective amounts, the attainments of the teachers, the results of their teaching, the number of their scholars, and the extent of the population residing within reach of their respective schools are taken into account. Stipends may be increased with increased numbers and efficiency in the schools, and licenses withdrawn on the existence of any cause affecting their public utility.

SCHOOLS.—Number of schools in operation, 292; number of scholars on rolls, 14,690; average attendance, 11,472; average number on rolls at each school, 50.3; average attendance at each school, 39.3; per centage of attendance to the number on rolls, 78.0.

The increase in the number of schools is said to be 13, or 5 per cent. nearly; and in the number of scholars, 1,004, or 7.4 per cent on the last preceding year. The greatest number of evening scholars was only 536. These not coming under the notice of the inspectors are not included in the foregoing figures. They are chiefly youths and young men whose education has been neglected; but their attendance is usually so irregular, and the time they remained at school so short, that it is feared the results can be but of little value. Respecting the ages of the scholars at school, it may be observed that there was in 1866 the slight increase of 1.3 per cent. in the number of scholars of the age of 13 years and upwards, but this very little affects the statement that has repeatedly been made, that the early age at which scholars are removed from school, except in a very few instances, entirely prevents their acquiring more than a rudimentary education. The proportion of the ages is 6 years and under, 28.5 per cent.; 7 years to 10 years (inclusive), 51 per cent.; 11 years to 12 years (inclusive), 13.5 per cent.; 13 years and upwards, 7.0 per cent.

FINANCE.—The amount placed by Parliament at the disposal of the Board for 1866, was—For stipends to teachers, £15,000; for education of destitute children, £1,000; for aid towards the erection of Common Schools, £1,000. Total, £17,000. The amount expended by the Board in stipends to licensed teachers, was £14,662 13s. 6d., or an average of 19s. 11¾d. for each scholar, against 19s. 10¾d. for the year preceding. The greatest number of destitute children who attended the schools at any period during the year was 1,191, whose education, at 6d. per week, (the teachers finding books, &c.,) cost £1,106 7s., or an average for each child of 18s. 6¾d., against £1 0s. 11½d. for the last preceding year. The average cost to the Government for each child attending the schools, including the destitute children, was £1 1s. 5½d., against £1 1s. 3¾d for 1865. The aggregate amount of school fees received from the parents of the scholars, including the fees paid by Government for the education of destitute children, was £15,728 19s., or an average for each scholar of £1 1s. 5½d. Thus the entire cost of education at the Common Schools during the year (exclusive of official salaries, inspectors' travelling expenses, &c.,) is shown to be £30,391 12s. 6d., or an average for each scholar of £2 1s. 4½d., against £2 1s. 9¾d. for 1865. This also gives an average receipt for each of the 284 teachers, (the average number during the year,) of £107 0s. 3d., against £105 4s. for the last previous year, and towards which the average rate of teachers' stipends paid by the Board, was £51 12s. 7d., against, £50 0s. 7¼d. for 1865.

During the year, from the depressed state of the times and other causes, the number of children destitute of the means of education, increased from 934 to 1,191. This increase occurred in the latter portion of the year, and is still very seriously increasing during the currency of the present year (1867,) so that the funds voted for this item for 1867 will all be exhausted a considerable time before the end of the year, and the Board will have to appeal to the Government for supplementary aid to meet the claims of teachers for school fees, which will then be due to them.

PROPOSED BUSH SCHOOLS.—The Chief Inspector furnished the Board with the following notes respecting these schools:—"The plan for educating children in the bush by means of itinerant teachers appears to be practicable, provided the co-operation of the proprietors of the runs can be obtained. It would be necessary that the teacher should have a residence at the head station, and should be provided with a horse in order to reach at stated intervals other portions of the run. In this way he might be enabled to teach during part of one day in each week four groups of children in four different parts of the run, and a principal group at the head station, from which he would start on his weekly round, say on Monday morning, returning on Thursday night or Friday morning, in order to give the principal group their day's tuition. He would thus have Saturday and Sunday to recruit himself. This plan pre-supposes the possibility of the teacher obtaining accommodation for the night at each of the places visited in turn, together with all refreshment needed, except what he might be able to take with him. He would, of course, give the children such lessons as could be learned without his assistance during the intervals between his visits, the parents rendering whatever aid they might be able and willing to afford. It might, perhaps, be possible in a few cases to include the children of two or more runs under the charge of the same teacher; but in these instances, from the distance to be travelled over, and the longer intervals between the teacher's visits to the children, it is feared the amount of education imparted would be too scanty to be of any appreciable value. A simpler plan would be to collect as many children as possible at the principal station, and there to board and lodge them. An arrangement of this kind would be much more likely to ensure the education of the children. Any children who could not be conveniently brought together might receive occasional visits from the teacher. As any scheme that can be suggested must be fairly experimental, it would be advisable at first to limit the trial of it to a few instances—say some five or six—in which the persons interested are desirous of having the experiment tried, and are willing to render all the assistance in their power. The Board are of opinion that if anything approaching to a general provision of means of education for the children of residents in the bush be eventually attained, it must be by commencing on a plan similar to that suggested above, and gradually extending its operations.

INSPECTION.—The Chief Inspector reports that the licensed schools have during the past year been found in a generally satisfactory condition. Although a smaller number of teachers came up for examination in 1866 than in the preceding year, a larger proportion obtained the second-class certificate than in 1865, and many passed very creditable examinations, but few being rejected with a view of future trial. While many of the teachers who have the charge of large establishments are fairly paid for their services, there is, unfortunately, a considerable majority who may justly complain of the small remuneration they receive; and, not unfrequently, this circumstance results in the retirement of valuable teachers who look for better prospects in other occupations. Although the present list comprises a fair proportion of efficient teachers, now that the early establishment of a Model School may be looked forward to, the deficiences hitherto arising from want of training, will, it is hoped, be wholly removed.

Several important towns, however, are still without public scholastic edifices, and the City of Adelaide yet remains conspicuous for the wretched nature of many houses appropriated to school purposes, which must be condemned in a sanitary point of view as being most deficient in space, ventilation, and protection against either extremes of heat or cold. Most of the large schools are well provided with suitable furniture and material, as is the case also with very many of the smaller establishments; but there is still a considerable number very indifferently supplied with reading, spelling, and other books, from the too general indisposition of parents to incur the expense of purchasing them, and to the inability of the teachers to meet a demand which in justice should not fall upon them.

TASMANIA.—REPORT OF THE BOARD OF EDUCATION FOR THE YEAR 1866.—During the year 1866 there were in Tasmania 101 schools in operation; the total number of distinct children on the rolls for the year was 8,198; the average number on the rolls from month to month was 5,159; and the average daily attendance, 3,930. The average number of children on the rolls for each school was 51.08; the average daily attendance at each school, 38.91. The average daily attendance as compared with the average number on the rolls amounted to 76.17 per cent. As compared with the year 1865, the number of schools has decreased by one; the total number of children on the rolls by 96; the average number on the rolls by 198; and the average daily attendance by 144.

The total sum expended out of the Parliamentary vote of £12,000 for education for the year 1866, amounted to £11,337 18s.; to this must be added £1,070 18s. 11d., paid on account of administration and inspection.

The school fees paid in aid of teachers' salaries amounted to £3,387 12s. 2d., being at the rate of 19s. 9¼d. per head for each child in daily attendance. The average amount of Government aid per scholar is returned at £2 17s. 7½d. per head. Adding the cost of administration and inspection, the charge will be £3 3s. 0¾d.

From returns of the emoluments of teachers, the following results have been collected:—

	Average Income.			*Maximum Income.*			*Minimum Income.*		
Schoolmasters	£119	9	9	£230	8	10	£67	4	4
Schoolmasters and Mistresses conjointly ...	156	17	7	392	15	10	58	8	6
Mistresses in sole charge...	68	0	2	127	3	1	24	16	1
Male Assistants	43	6	8	60	0	0	30	0	0
Female Assistants	45	8	6	68	0	0	20	0	0

In the month of June an examination of candidates for exhibitions from Public to Superior schools was held, and, on the recommendation of the examiners, exhibitions of the value of £16 13s. 4d. per annum, tenable for four years from the 1st July, 1866, were awarded to each of four successful competitors.

INSPECTION.—The Inspector of Schools, T. Stephens, Esq., M.A., was prevented by a long and serious illness from inspecting a number of schools. In his General Report, which is very brief, he states that, upon reviewing the notes taken during the past six years, he is unable to trace any appreciable improvement in the real work of education. So far as external evidences of progress are concerned, there is no ground for dissatisfaction. The increase in the number of schools and the attendance of the children have kept pace as far as could reasonably be expected with the increase and dispersion of population. But looking at the condition of public education as a whole, either as regards the internal economy of schools, or the qualifications of teachers, the progress which has been made since the reduction of the Education Grant cannot be regarded as satisfactory. It is not to be expected that the small salaries which are now usually offered will attract persons who are qualified for the work by previous training or education; nor is it surprising that of those who offer themselves as candidates for employment the majority are unable to pass satisfactorily an examination in the elementary branches of instruction. Teachers, after appointment, do little either to remedy defects in their own education, or to bring their schools up to a reasonable standard of efficiency. This defect may be readily traced to the absence of those inducements which are ordinarily provided to stimulate exertion and progress; and the obvious remedy is the introduction of a system of classification of teachers.

The Secretary to the Board, M. Burgess, Esq., acted for a short time as Deputy-Inspector during the illness of Mr. Stephens, and examined and reported upon 27 schools. In his report, Mr. Burgess states: "Ten years and upwards have elapsed since I was actively employed in the visitation of schools. Comparing my present with past impressions, I cannot but congratulate the Board on the general improvement which has taken place, both as regards discipline and instruction. Recollecting the deficiencies of so many of the former teachers, I record my testimony to the higher qualifications, the improved tone, and steady conduct of those now in charge of Primary Schools, and to the active and faithful fulfilment of their duties.

EUROPE.—The importance of a thorough diffusion of correct information as to the social, manufacturing, and educational progress of the leading nations of the world, induced the Committee of Council on Education of England to depute gentlemen of known ability in their various departments, to report on the "classes" of products at the French Exhibition of 1866. These reports, excellently written as they are, contain a vast amount of well digested information on each of the subjects embraced, and very materially assist those who were not able to view the exhibition, to arrive at a tolerably correct idea of the contents of each class, the progress indicated by each, and the amount of attention bestowed upon any subject, either by a nation, or by an individual.

Class 89, containing apparatus and methods used in the instruction of children, has been reported on by the Rev. Canon Norris, M.A.: it is accompanied by a report on class 90, which is on the same subject applied to the instruction of older persons.

It is remarkable, and to be regretted, that some of the countries in which education has already made, or is now making great progress, have contributed so little towards the general information; thus—Belgium sends only two sets of school books and two atlases; Holland and Switzerland send nothing; neither does the United States of America, while Canada sends excellent school books, and an interesting model of the great agricultural school of St. Anne, made by the teachers themselves.

As was to be expected the apparatus and methods of French Schools were well represented. One of the best samples of French primary instruction is to be found in the Creusot schools, which are principally intended for the children of the workpeople attending the Ironworks of Creusot. The workpeople's children pay 7d. per month, strangers, 1s. 2d. There are 2219 boys and 1846 girls in attendance. The boys are taught by 12 masters, with a chaplain to afford religious instruction; while the girls are instructed by the Sisters of St. Joseph de Cheny. Each of the two principal schools numbers above 900, and is divided into 9 classes. The mean age of the highest class of boys is 14, of girls 13; the mean age of the boys of the lowest class is 8, and of girls and infants 4. The course of instruction is fourfold:—

I. French, occupying 10 or 12 hours per week, and embracing—reading, committing to memory, grammar and composition.

II. History and geography, occupying from 3 to 4 hours per week of the girls' time, and from 4 to 8 hours of the boys'. A course of Bible history being included in this department.

III. Science occupying from 6 to 10 hours of the boys' time weekly, and 5 hours of the girls'. In this branch are taught—arithmetic, bookkeeping, geometry throughout, and for the elder boys one hour of natural philosophy, and mechanics, one hour for chemistry, and 2 hours for algebra.

IV. Arts, occupying 12 hours in each school per week. For the girls one hour daily for needlework, and another for writing, and two hours for music. For the boys, the time is divided between writing, drawing and music. Good marks are given and registered by teachers. Annually these are added up and results determined at an examination; this excites much interest. In this school an admirable system of patronage is introduced; to the most deserving boys the Company award the best situations in their employ, as engineers, clerks and workmen. The merit is rigorously carried out, and the poorest child has equal rights and claims with the richest. Punishments are seldom needed. When loss of marks fails to suffice, a letter is written to the parent, and the child's attendance suspended for awhile. In twenty-six years, only three cases of final expulsion were found necessary.

In connection with this school, a night school for workmen was introduced, which in three years has increased from 100 to 260 in attendance. Mr. Norris says of these schools:—"the result of the children's work, drawings, needlework and copybooks, seemed to me to be admirable."

Some very complete plans of school buildings were exhibited by M. Uchard, an architect, in which the ventilation is carried out by ventilating flues alongside of the smoke flues. As the success of this method of ventilation depends mainly on the length of the flue, the French system of building their schools two or three stories high, answers admirably. In the summer time when fires are not needed, ventilators in the chimneys are introduced. Ventilators in the roofs of the buildings are condemned.

Taupier's method of teaching writing is much recommended. The child traces a few lines over pale letters, before he trusts himself to write unaided; pale lines guide the slope of the letters, and their spaces also, through the earlier books. Books of this kind are almost universally adopted in France. The more advanced books of this system embrace invoices, addresses of letters, elements of grammar, &c., &c.

The arithmetical system is based on the decimal notation, which is carried out in all the French weights and measures, and admits of more perfect illustration by means of scales, diagrams, &c.

Gervais' atlas of outline maps, to be filled up by the pupil, is noticed as most beautiful and also cheap, the maps costing only one-penny each; the mountains are printed in bold relief.

The report on the French Schools also speaks most warmly of the effort made by France to connect the School with the Workshop during the past three years. These Schools belong more particularly to class 90, and take up the children at the point where the Primary School leaves them. Here the girls learn book-keeping, (the French tradesmen's books are almost entirely entrusted to women,) wood engraving, porcelain painting, and millinery; the boys, machine drawing, physics, and generally the principles applicable to whatever trade they are about to engage in. It is clear that the necessity for this kind of education is more highly appreciated in France than in England, and when we take into account the wonderful extension of Evening Schools all over France during the past three years, there being in April 1866, 23,000 evening schools for men and 1,706 for women, attended by 596,000 pupils, we cannot be surprised that the French workmen exhibit a large amount of intelligence, and that the results of this Exhibition of 1867, tend to shew that from want of technical and systematic education in his own branch of labour, the British workman has failed this year to maintain that position he so justly claimed in 1851 and 1855. An art education for *our* working men and working women will go far to set this right again, and we would here emphatically repeat to our artizan class, "educate yourselves at all costs."

Prussia which always has held a prominent place in educational matters, furnished a room with all the requisites for a school, in which the wall maps of Kiepert were especially noteworthy; an excellent Atlas at a shilling and a half-penny, and the graduated series of reading books used at the Munsterberg normal school of marvellous cheapness, are the chief features of this department.

Sweden furnishes the lower chamber of a picturesque wooden house representing one of their village schools. Education here is *obligatory*, and the entire absence of dissent from the national religion, makes it possible to work the school entirely through the ecclesiastical organization. Each child has a small desk and seat to himself, the desk holds the books, and the seat has a back. The teacher thus passes freely among the children.

In Denmark the children of the primary schools are all taught the English character of writing, as well as the German.

Austria contributes the best globes of every size and price, and among other things, Patek's apparatus for teaching arithmetic, which Mr. Norris says he never saw in any English school. It is like a ball frame, only on the wires, instead of balls you have divisible reeds; the uppermost is undivided, and represents the integer. From these below which are divided into fractional parts, and run on the wires, the child sees at once that three fourths are equal to six eighths, greater than two thirds, less than four fifths &c.

In this department were exhibited very cheap Telluriums and Planetariums from £1 10s. to £5 each, sold by Felkl of Prague. By lighting the lamp and turning the handle, the whole theory of day and night, of the seasons, and of eclipses, is shown to the child at once. All the Austrian apparatus seems to be far cheaper than that of France or England.

In the Spanish educational department, the most noteworthy object was a school desk long enough for five children, supported by five simple cast iron standards. Instead of a bench or form as with us, there are five round seats, each resting on a continuation of the iron standard, like so many music stools before a piano. When the class is told to stand, each child stands at once *by the side of* his seat, and can leave or resume his place without difficulty. When used for needle work cushions are attached to the desk, to which the girls may pin their work.

Italy contributes, from the Minister of Public Instruction, a very complete assortment of school books and material, and along with these are some most beautiful ornamental drawings from the schools of Naples, Venice, and Padua.

In conclusion Mr. Norris remarks that, while a teacher's success as a disciplinarian cannot be shown in any exhibition, and while any teacher looking at a suggested improvement, or a new plan, may very properly put the query, "How does it work?" there is very much to be learned by the observant educator in class 89, and we would cordially recommend all teachers to peruse his report in detail.

CHEWED UP.—Never chew your words. Open the mouth and let the voice come out. A student once asked: "Can virchue, fortichude, gratichude, or quiechude dwell with that man who is a stranger to rectichude."

SCIENTIFIC SUBJECTS.

Meteoric Showers.

Last November twelve months, Mr. Tebbutt, of Windsor, relying on the calculations made by Astronomers in Europe, recommended a good look out to be kept for an expected shower of Meteors, about the 13th or 14th of that month. Such a shower fell in the Northern hemisphere as predicted. The following is an abridgment of a paper read on this subject at a recent meeting of the British Association by Professor A. Herschell, of Glasgow:—

Professor A. Herschell said—Thirty-three years have now elapsed since a committee of the British Association received the recommendations of learned men to include the observation of luminous meteors in their meteorological inquiries. This counsel was given on the occasion when a grand re-appearance of the November star-shower in America awakened a desire in every mind to assist, if good fortune should present such another spectacle in the nightly skies as that with which our transatlantic neighbours from that time and for a long time seasoned their discourses on the marvels of astronomy. With the endless means of intelligence and communication between distant countries now so constantly and easily accessible, the statement of Egen, and the opinion of more modern collectors of meteorites, that one such fragment at least is every day added to the earth's ponderous mass looks more and more likely to be confirmed. In England and France, with their dependencies alone, five aerolites in four weeks, about two years ago, were reported in the newspapers to have fallen, and portions of the stones were forwarded to the national museums. Whereas, at the beginning of the present century only three fragments of aerolites existed in the Museum of Mineralogy at Vienna; that collection now contains more than 220 specimens of well-authenticated falls. The gallery of mineralogy in the British Museum contains a somewhat greater number. In the year A.D. 1719 a meteor of unusual size appeared in England, to which trigonometrical calculations assigned a diameter of at least a mile, a velocity of three miles per second, and a height in the atmosphere of sixty geographical miles. A detonation like thunder shook the houses as it passed. Dr. Edmund Halley, who was then professor of astronomy at Oxford, described the appearance of this meteor. In the Mineralogical Museum of St. Petersburg a large mass of metallic iron, weighing about seven hundredweight, had been brought by Pallas, the geologist and explorer, from the summit of the hill Krasnojarsk, in Siberia, where it was found. The origin of the mass was a vexed question with geologists when, in the year 1794, Chladni published his work on "The Iron Mass of Pallas and other Masses of Iron and Stone Reputed to have Fallen from the Air." In this work Chladni supposes that all the accounts hitherto received of the falls of aerolites were correct, and he presents a catalogue of them, together with all the accounts of large fireballs which he was able to collect.

Chladni conceived that a class of cosmical bodies exists in all parts of the solar system, each forming by itself a peculiar concourse of atoms, and that the earth from time to time encounters them, moving with a velocity as great as its own, and doubtless in orbits of very various eccentricity round the sun. Chladni further assumed that a certain property of compressed air, which can be readily exhibited by an instrument called a match syringe, produces the vivid light and heat of combustion which these bodies exhibit when they are first brought into collision with the outer strata of the atmosphere. The passage of a celestial body through the atmosphere must be intensely rapid, so that before the air can make its escape from the front of such a projectile, it must necessarily undergo a violent compression of the kind exemplified in the match syringe—the heat developed on its surface must, doubtless, far surpass what can be produced by mechanical means. The first astronomical observations of the kind necessary to confirm the theory of Chladni were those conducted by Brandes and Berzenberg at Gottingen, in the year 1798, on the heights and velocities of shooting-stars. It was found that shooting-stars appear at a surprising height in the atmosphere, and move with the extravagant velocity which large aerolitic fireballs were already known to have. The first indication was thus gained that the shooting-stars are, in fact, pigmy aerolites, and that aerolites are a gigantic kind of shooting-stars. It was shown by Edward Howard, in the beginning of the present century, that meteoric stones differ essentially from terrestrial rocks, by abounding with metallic iron. But they agree among themselves, by having, in every case which he examined, the rarer metal nickel for an ingredient. Chromium was afterwards shewn by Laguier to be an even more constant companion of iron in meteorites than nickel. Copper, tin, and lead, soluble chlorides of soda, potash, and ammonia, carbon in the form of graphite, and once occurring as a carbonaceous peat, and in one other case as a volatile substance have been found in meteorites; but no new element has been discovered which is not already known to exist upon the earth. Among the largest aerolite falls of modern times, two celebrated examples have occurred in France, and two took place in Austria and Hungary. A violent explosion was heard in L'Aigle, in Normandy, and at a distance of eighty miles round L'Aigle, at 1 o'clock in the afternoon of the 26th of April, 1803; a few minutes before the explosion was heard a luminous meteor with a very rapid motion appeared in the air, and the explosion heard at L'Aigle was caused by the bursting of the meteor. Two thousand stones fell at L'Aigle upon trees, pavements, and the roofs of houses, so hot as to burn the hands when touched, and one person was wounded by a stone on the arm. The shower extended over an oval area nine miles long and six miles wide, close to an extremity of which the largest of stones was found. A very similar shower of stones fell at Stannem, between Vienna and Prague, on the 22nd of May, 1812, when 200 stones fell upon an oval area eight miles long by four miles wide. The largest stones, in this case, were found, as before, near the northern extremity of the eclipse. The third stonefall occurred at Orgueil, in the south of France, on the evening of the 14th of May, 1864. The area in which the stones were scattered was eighteen miles long by five miles wide, and the largest stone was picked up at the eastern extremity of the area. Lastly, at Kuyahinza, in Hungary, on the 9th of June last year, an aerolite, weighing six hundredweight, was deposited, with nearly one thousand lesser stones, on an area measuring ten miles in length by four miles wide. Several true bolides accompanied the last November star-shower. Aerolite fireballs, as their name implies, frequently precipitate solid stones upon the ground. Fireballs of this class are accompanied by a detonation. Four such fireballs have happened within the last few years, on or about the 20th of November. The list of fireballs observed hitherto numbers some thousands, and as far as their appearance in comparison with some shooting-stars is concerned, the latter presents a dwarfed resemblance to the former, *so that it is probable no break exists, but that fireballs of every kind are shooting-stars of a larger stature.* The progress of knowledge regarding shooting-stars may almost be identified with the history of the November star-shower. From the records of scattered observations, extending over more than twenty years, the Luminous Meteor Committee of the British Association believe that they have traced the existence of at least fifty periods of such occurrences during the twelve months of the year, with the positions of their connected radiant points. A study of ancient appearances of the November meteors led Professor Newton, of Yale College, U.S.A., to anticipate their reappearance on the morning of the 14th of November last. The interest of astronomers was awakened by the seasonable appeal in good time for preparations to be made in almost every quarter of the globe to note the reappearance of the shower. The area of its visibility extends from the British Isles to India in the east : and from Europe in the northern, to the Cape of Good Hope in the southern hemiphere. This was exactly the district occupied by the same shower at its appearance in the year 1832, and it may be expected that this great shower, like that of 1833, will this year be again visible in America on the morning of the 14th of November next. But, in that case, it will be only partially visible in Europe. The position of the radiant points, as well as the moment of the maximum abundance, was distinguished with great precision at the Royal Observatory, Greenwich, and compared with observations at other places, leaves nothing to be desired in respect of philosophical exactness. The moment of maximum frequency, observed at the Cape of Good Hope Observatory, shows that South Africa, on account of its high southern latitude, entered the densest portion of the shower about fifteen minutes earlier than the same phase of the shower was witnessed in the British Isles, while the total duration of the shower, at all stations, shows that the greatest thickness of the stream of meteoric bodies through which the earth passed in two hours, was about thirty thousand miles. A most curious incident connected with these discoveries is, that a comet detected by Tempel shortly after the first outposts of the November meteors made their appearance in 1865, to which an elliptic orbit, with a period of thirty-three years and a quarter, was assigned by Oppolzer before the recent display of the November meteors was discovered, is found to move in exactly the same orbit with the meteoric bodies, throughout their entire revolution round the sun.

It is not impossible that the meteoric particles are portions of the comet's tail, shreds of a dismembered mist, torn by the sun's disturbing action from the nucleas of the comet, and left upon its path like embers, or smoke-flakes in the track of an expiring flame. But is the heat of their collision with the atmosphere sufficient to restore a portion of the luminous appearance with which she shone in the nucleus of the comet ?

ABYSSINIA.

As there is every probability that Abyssinia will occupy a very considerable share of public attention for some time to come, England having recently declared war against the Emperor Theodore, we deem it not inappropriate to give some description of that country ; although, from the little intercourse it has had with European nations, our materials are exceedingly scanty. For what we do know of its geography and people, we are indebted principally to the Portuguese Missionaries, and travellers who, in the interest of science, have partially explored that Alpine region. Among others, we may mention Antonio Fernandez who made a tour through Abyssinia in 1613 ; Job Ludolf, whose work was published in 1682 ; Louis Poncet, a French physician, who visited Gondar, then and till lately the capital, in 1699 ; and Bruce the celebrated Scottish traveller, who entered the country in 1770, (the time the renowned Captain Cook was so successfully making his discoveries in the South Pacific.) In 1805, Mr. Salt, with a view to ascertain what kind of trade could be opened up with the people of the interior, made a tour from Annesley Bay, where the British fleet is now anchored. Captain Speke, after discovering what he considered to be the true source of the Nile, in Lake Nyanza, south of the equator, passed through Abyssinia to Cairo, in 1860 ; and last, but not least, Captain Speedy, who, a few evenings ago, delivered two interesting lectures on Abyssinia, in the School of Arts, went on a pleasure excursion to that country in 1861.

Abyssinia lies on the west side of the Red Sea, between lat. 7deg. 40min. and 16deg. 40min. N. and long. 34deg. 20min. and 43deg. 20min. E. Its length from north to south is 670 miles, and its greatest breadth 540. It is bounded on the north by Nubia, on the south and south-west by that part of Africa occupied by the Galla tribes, and on the south-east by the Somauly country. It does not extend to the Red Sea, but only to the verge of the mountain range—called the Taranta Mountains, in the north, and the Senafe Mountains in the south—which run parallel with the Red Sea at a distance of about 70 miles from it. This tract is occupied by various independent tribes. Abyssinia consists principally of three kingdoms. 1st the Kingdom of Tigré, which is a high tableland 8000 feet above mean sea level, extending from the Taranta and Senafe Ranges on the east to the Taccazze River, a branch of the Nile which separates it from Amhara on the west. 2nd the Kingdom of Amhara which extends from the Taccazze on the east, to Galla country on the west and south-west. 3rd the Kingdom of Shoa and Efat, which lies south of Amhara and Tigré. There are various other districts outlying these, occupied by independent tribes. Tigré includes Adowa, Axum, Lasta and Enderta, Antálo and Lake Ashanga. Amhara is also a high tableland, and like Tigré, may be said to bear a resemblance to a number of tables of irregular height, separated by immense gorges of perpendicular descent, varying in depth from 500 to 2000 feet, with various cataracts of over 100 feet, down which, during the rainy season, immense torrents roll in great volume, with rapidity, and often with fatal suddenness. Lake Dembea is in Amhara, as is also the Samen mountain range in which the Bahr el Azrek, or Blue Nile, which flows through Lake Dembea, takes its rise. Near this lake is Gondar, the former Capital of Abyssinia. These mountain ranges, which run from south-east to north-west, rise almost to the region of perpetual snow; Mount Buahat being 14,364 feet, and Abba Jaret 14,918 feet above mean sea level. The heart of this mountain system appears to be Lasta, a province in the south of Tigré, from this plateau, 8,000 to 10,000 feet high, the rivers flow in opposite directions. Between this place and Efat is the territory of Angot, and numerous other tribes, of whom, little or nothing is known. Between the Senafe Mountains and Amphila Bay in the Red Sea, is a salt plain, which is estimated to be about 60 miles long, and 15 miles broad. The salt lies in layers on the surface, and varies from a foot to three feet in depth. On the top it is found in incrustations like ice, underneath it is soft, and too much mixed with clay to be used in its native state. This is an article in which a very large trade is carried on with the inhabitants of the interior of Africa. The other articles of trade, which is carried on *via* Massowa, are white honey, bees' wax, coarse woollen and cotton cloth, pottery, and untanned skins, which are particularly excellent.

There are three seasons in Abyssinia; the rainy season, which lasts from the end of May until the end of September, which is the season of rest; the summer, or fruit season, which immediately follows; and the dry season. On the mountains, which are generally of a red granite formation, and like our own New England range, table-topped, the climate is very cold, but in the valleys or the glens which lie between the plateaux, the heat is intense. There is no particular time for harvest. The country, in some parts, is sandy, and in other parts the soil is a black mould, very similar to what it is in the northern parts of New South Wales. In the same locality may be seen, people sowing wheat, others reaping, and in the next field, wheat just above ground and beside it, more coming into ear. The country is fairly supplied with timber, and affords excellent pasture for cattle, of which there are very good breeds. They have an excellent breed of horses, which they tend with great care, as they do also sheep. Most of the European domestic animals are abundant. The forests abound with elephants, lions, rhinoceroses, buffaloes and all kinds of game. The hippopotamus and the crocodile infest the rivers. There is a kind of ant which is found to be as destructive as the white ant of India. Locusts visit the country in such numbers, as to be regarded as a plague. The grape is indigenous, and tolerable wine is made in some places. Orange, lemon and citron trees, and the caper tree, are often found growing wild in the woods.

The inhabitants of this country are superior to most of the other African natives; a very large proportion is said to be of Jewish descent. They live principally in the neighbourhood of the Taranta and Samen mountains. Another important section, and now the dominant race, are the Christian Agows, inhabiting the lowlands of the Taccazze and the country around Adowa, the rest are of Arabian extraction. There are none in Abyssinia of the negro race, except those kept in a state of slavery, which is said to exist in a milder form than it did among European colonists. They are, in general, handsome, though of a very dark colour, almost black, yet some are said to have Roman features and to be not darker than the people of Southern Europe. They are excellent horsemen, brave, and tolerably industrious, but manifest in many particulars, pretty much the same traits of character as other nations, where civilization is at a low ebb. The Christian religion is the most prevalent. The language is Geez or Ethiopic, of which there are four principal dialects. The population is estimated at seven millions.

Such is the nation against which England has recently declared war. By the latest accounts, the British fleet had arrived at Massowa, an island in the Red Sea, 300 yards wide, and a mile long, containing 4000 inhabitants. A portion of the force had arrived at Zula, on the mainland. Between this point and the frontier of Abyssinia is a wearisome march of seven days; the first two days it is over sandy elevations; the fifth day brings the troops to the granite ride of Tubbo, where the country assumes a different aspect, instead of the mimosa that marks the region of sand and heat, the eye is greeted with hills and brooks, and forests full of elephants, monkeys, antelopes hyenas and buffaloes. The caper and the tamarind trees with their fruit are seen, and also the fig sycamore, of gigantic size, is met with. But two days more, and the precipitous eastern face of the Taranta range has to be encountered, where the ascent is so steep, that riding is almost dangerous. No doubt British pluck, and the modern appliances of war, will surmount all these obstacles, although opposed by a host of barbarous warriors. The tableland of Tigré gained, the scenery is enchanting. The country is open; but where is Theodore, who has no other capital than his camp in the field? and where are the captives? On this point speculation is beyond our province.

Yet we may entertain the hope that the result will be—a better understanding established between that christian power and Great Britain; that such treaties will be made as will prove beneficial to our trade in the east, and that much of the Ethiopic literature existing among the Christian Abyssinians, will be brought to light by the learned of Western Europe, to whom commercial intercourse will open up the country.

NOTICES OF BOOKS.

AN ENQUIRY INTO THE NEW RELATIONS BETWEEN LABOUR AND CAPITAL, &C., &C., *by G. K. Holden, Esq. Formerly Member of the Legislative Council, and Chairman of the late Board of National Education.* Sydney: W. Maddock, 383 George St.

THIS Enquiry, the author informs us, is identical in substance with a lecture he delivered at the Sydney Mechanics' School of Arts. He has revised it for publication in the form of a pamphlet, because a desire has been expressed by many persons to see it in print. We must confess to having shared in this desire, and we now commend the Enquiry to the notice of our readers for two special reasons.

In the first place, the study of Social Economy is recommended to Teachers under the Council of Education, and the Enquiry deals effectively with a most important branch of that subject. Secondly, the well-known ability and judgment of the writer afford a guarantee that the subject has been treated in a masterly and impartial manner. We can perhaps best convey some notion of the author's design by quoting from the opening paragraphs of the Enquiry. We regret that our space will not admit of a longer notice. He remarks:

> At a time when the growing political power of the working classes is exciting apprehensions among many thoughtful men of its employment in the perversion of legislation to the support of those unjust and suicidal pretensions which have been maintained at Sheffield and elsewhere by intimidation, and even by murder, it is scarcely possible to exaggerate the importance of any improvement in the relations between Labour and Capital which will tend to mitigate their antagonism, and open up to the labourer a perfectly just career of advancement, sufficiently encouraging in itself to remove all temptation to enter upon one of injustice.

The following enquiry will be directed to the indications of this improvement presented in the gradual development of Co-operative Societies, Labour-partnerships, and other forms of productive industry, which supersede, to the extent of their operation, that which Carlyle designates in his quaint way—"Servantship on the nomadic principle of so many shillings a day." Although it may seem to a superficial observer that any change which is a gain to one class, must involve loss to the other, it will usually be found that all genuine improvement of either in which moral and material advancement are conjoined, will promote equally the advancement of the other. By both alike, therefore, is this movement worthy of earnest investigation, and, if this genuine character be established, then also of earnest encouragement.

This encouragement is not, however, intended by any means to apply to those delusive exaggerations by which enthusiasts in this, as in every other energetic social movement, help to aggravate the obstructive prejudices of opponents. One of these is the expectation that, through its means, service for fixed wages is not only destined to be supplemented, but actually abolished, and cast behind into the same limbo with the hoary monster of slavery. Even were such a result attainable, it would be far from desirable. In very many pursuits, payment by fixed wages will at all times continue to be the most advantageous arrangement for both parties, and even when others are freely open to adoption, will command the deliberate preference of the labourer himself; just as many a capitalist now prefers a moderate certainty in fixed interest, to a larger contingent profit in speculative enterprise. At the same time it is no less true that this new liberty of choice will tend to the moral elevation of all, even inclusive of those labourers who elect to remain in their present position. It will consummate the liberty, which, so far as regards the choice of a master, was acquired by the transition from slavery or serfdom. The labour itself may in each case continue as hard and as imperative as before, but in proportion to the liberty of personal choice in the terms of its engagement, will it be ennobled in character, and rendered with cheerfulness and efficiency. Even the etymology of a single word, "willingness," may teach the whole lesson. In the glad alacrity which this signifies, does the "will" of the labourer yield an unconscious return for its augmented privilege.

Another illusion which should be equally discouraged, is the expectation of any progress in this new movement apart from, or in any greater proportion, than we can ensure the acquisition, by its participators, of those intellectual and moral qualities which alone have hitherto caused success, in the cases that justify imitation. No good can result from any Quixotic attempt to force these enterprizes into premature existence, without regard to the adequate mental and moral preparedness of the individuals concerned. All that is intended is, that advantage be taken of fair opportunities for their formation, where this condition exists, and that those who appreciate their value contribute, according to their ability, to swell that current of enlightened public opinion, which is both the cause and effect of all true progress.

If co-operative societies appear to any one in the light of a mere triumph of labour over capital,—or labour-partnership, in that of a mere reluctant concession extorted from the master by the exacting spirit of the workmen—he has utterly failed to understand the true character of these new social phenomena. Whatever the motives in which they originate, their ultimate tendency is to modify the present sharp line of distinction which separates and alienates the two classes, and by promoting their interfusion, so to identify them in interest and feeling, as to remove the cause of their present unhappy contentions. Each of these movements may be regarded in the light of separate, but simultaneous efforts, to bridge over the great gulf which has hitherto yawned between the two classes; the co-operative societies having erected the first substantial piers on the one side of the chasm, and the employers who institute labour-partnership constructing the requsite approaches on the other.

HOW CORRECT!—No school is more necessary than patience, because either the will must be broken when young or the heart in old age.—*Jean Paul Richter.*

ORIGINAL CORRESPONDENCE.

(Writers of all communications intended for publication in this Journal must furnish us with their names, not necessarily for publication, but as a guarantee for good faith and correctness. The Conductors of the Journal are not responsible for opinions expressed by correspondents.

PUBLIC EXAMINATIONS.

To the Editor of the Australian Journal of Education.

SIR,—The University of Sydney has set the Public Schools of the Colony a noble example. The periodical examinations open to all schools which the University professors will hold, must tend to do much towards promoting an honorable rivalry among the various high schools in New South Wales. I rejoice that the path to distinction in this respect, is open to schools under the Council of Education, except as regards the examination in Greek, which I fear will amount to a total prohibition to boys attending such schools. Yet much as I might regret this, I cannot say I have any desire to see the standard for these examinations lowered. Let those who profess to teach the classics enjoy facilities, thus provided, for proving to the world that the profession is not a vain one. But I am desirous, that similar facilities should be afforded to ordinary day School teachers, for showing what is being done in their humble and unheeded establishments. If what is done by the University for Grammar Schools were tried for the day schools, I have no doubt but it would infuse a vigour into the teaching hitherto unknown. Suppose such examinations of Boys and Girls attending Day Schools in the more populous districts, were held at places centrally situated, by inspectors, assisted by some of the professional or other educated gentlemen of the district, under regulations defining the mode, the subjects, and the limitations, we can easily imagine the stimulus it would give the teachers to increased and cheerful industry. The honour of having the largest proportion of his pupils passed at such examinations, would be more highly prized than any pecuniary reward that could be bestowed; while at the same time, the pupils anxious to participate in that honour, would have a motive stimulating to industry hitherto unthought of; and also produce in them such a sympathy for the teacher in his work as has not been felt before. Deserving teachers would then be sought, and appreciated when found. This idea is not a new one. Suggestions of a similar kind were published by correspondents in the daily press some ten or twelve years ago; and now that a beginning has been made by the *Alma Mater*, we cannot do better than follow her footsteps. So far as I can learn, the number of candidates that presented themselves at the University examinations was rather limited, only eighteen having gone up for examination. It may be that the entrance fee was too high; but still there is room to suspect that the matter was one for which too many were unprepared. Had classics been omitted from the programme, or not compulsory, I am of opinion that the ordinary day schools could find a greater number than this to compete in the other subjects. I throw out these hints in the hope that those who have the management of our educational institutions will give the matter their attentive consideration.

AN OLD SCHOOLMASTER.

NOTES AND QUERIES.

(We shall be happy to receive communications from Teachers in the Country, relating to the plants, animals, natural curiosities, latent resources, productions, or manufactures of the colony.)

A CORRESPONDENT of an Australian paper, the *Orange Guardian*, writes as follows:—" Some twenty-two years ago I recognised the Asbestos, or Amianthus Rock, in this district, and since then

I have from time to time exposed portion of the stone to atmospheric influences; and the result has always been a perfect change of the stone into Asbestos, or into a substance resembling the finest staple of wool, only something stronger, and, if possible, whiter in appearance. I have sometimes obtained it six inches in length, have combed it out, and found it as soft and pliant as any silk. This substance, as no doubt you are aware, is inconsumable by fire. The stone may be brought into the state of Asbestos in a very short time. I have been employed sinking a well of late, and some days I got as much of this mineral as would make a suit of clothes. I can show the stone here in all its stages, from stone itself to the Asbestos state. Should Asbestos ever come into general use, it will, in some measure no doubt, from its incombustible nature, supersede the evils of crinoline. Besides this great advantage, it will also set aside the vexatious expense and use of soap and water: for all a lady will have to do when she unrobes herself will be to pitch her articles of apparel into a glowing fire, and when they have become as white as a snowflake she may resume them at her pleasure. Perhaps you may deem some parts of the foregoing rather extravagant; nevertheless, I really believe that, by proper appliances, the Amianthus may yet become a source of revenue, and I therefore recommend the thing to your attention. AMIANTHUS.

NOTICES TO CORRESPONDENTS.

A PUPIL TEACHER *is informed that his Communication is withheld from publication because it was not accompanied by his name.*

GOD SAVE THE QUEEN.

[To be sung by the children attending the Schools under the Council of Education, on the arrival of the Duke of Edinburgh.]

God save our gracious Queen,
Long live our noble Queen,
God save the Queen!
Send her victorious,
Happy and glorious,
Long to reign over us,—
God save the Queen!

Thy choicest gifts in store,
On her be pleased to pour:
Long may she reign!
May she defend our laws,
And ever give us cause
To sing with heart and voice,
God save the Queen!

QUESTIONS FOR SOLUTION.

THEOREM.

If through any point in the hypothenuse of a right angled triangle, right lines be drawn, cutting the base and perpendicular respectively, the rectangle formed of the segments of the hypothenuse shall be equal to the sum of the rectangles formed of the segments of the base and of the perpendicular.

E. Hewison.

1. S. and T. are two schools, conjointly consisting of 184 pupils; S. contains 15 more girls than boys, and T. 9 more boys than girls; also, in S. the number of boys is to that of girls, as, in T., the number of girls is to that of boys. How many boys are in each school?

2. Four men, A, B, C, and D, were engaged in a certain work, for which B by himself would have required $1\frac{1}{2}$ day longer than A; moreover, A and B together would have performed the work in $\frac{27}{44}$ of the time of C and D; or A and C in $\frac{32}{39}$ of the time of B and D; or A and D in $\frac{35}{36}$ of the time of B and C. The work was begun by A, who continued to its termination; but after $1\frac{3}{4}$ day he was joined by B for $1\frac{1}{2}$ day; after $2\frac{1}{2}$ days he obtained C's assistance for 1 day; and after 3 days he had D's assistance for $\frac{1}{2}$ a day. How long was A alone during the progress of the work?

3. Find the value of $\frac{1}{10^3} \times \left\{ 1 - \frac{3}{10^2} + \frac{3 \times 4}{1 \times 2} \times \frac{1}{10^4} + \frac{3 \times 4 \times 5}{1 \times 2 \times 3} \times \frac{1}{15^6} \right\}$ expressing it (1) as a decimal, and (2) as a fraction.

4. Find the cube root of $a^3 - 6a^2x + 12a^2x^2 - 8x^3$.

5. $4ax^2 - 2\,bx = c$, find the values of x.

Magister.

State the reasons why the following places were so called, and also give the meaning and derivation of the words, viz:—London, Asia, Brazil, Japan, Islos de los Galapagos, Murrumbidgee, Lachlan, Hunter, Lichfield Missouri, Groote Eylandt, Europe.

Alpha.

I, and probably many more, would be glad to be favoured through the medium of your journal, with your opinion as to the places and offices that nouns in the *nominative case addressed* and *nominative case absolute* should have in an analysis of a sentence containing them. And I shall be further obliged if some of the readers of your journal will be good enough to analyse the following lines:—

Ah, happy hills; ah, pleasing shade;
  Ah, fields beloved in vain;
Where once my careless childhood strayed,
  A stranger yet to pain!

J. H.

Analyse the following passage:—

I'll prove the word that I have made my theme,
Is, that that may be doubled without blame,
And that that that thus trebled, I may use;
And that that that, that critics may abuse,
May be correct. Farther, the Dons to bother,
Five thats may closely follow one another!
For be it known, that we may safely write,
Or say—That that that that that man writ was right!
Nay even, That that that that that that has followed
Through six repeats, the grammar's rule has hallowed!
And that that that—that "that" that that began,
Repeated seven times is right!—Deny't who can!

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AGRICULTURAL SCHOOLS.

Among the many useful lessons taught by the recent French Exhibition, there is one of great and peculiar importance. It is proved that a country cannot acquire or retain preeminence in manufacturing skill, unless its artisans have received some amount of scientific instruction. This conviction has forced itself upon the minds of some of the leading educationists in England, after a close examination of the various manufactures in the Exhibition and a comparison of their respective merits. In former years, England was generally accorded the first rank in manufacturing skill, continental nations being, in most respects, far behind. But at the present Exhibition, this state of things is reversed. Little progress, it is acknowledged, has been made by English manufacturers since 1862, while France, Prussia, Austria, and other European countries have made such advances as to attain a position of superiority in most of the industrial arts.

The Commissioners appointed by her Majesty to inquire into the education given in schools not comprised within the scope of previous Commissions of Inquiry, have accordingly suggested that a special inquiry into the state and effects of technical education abroad should be instituted. The reasons assigned in support of this recommendation are thus stated:—

"Our attention has been incidentally called to the evidence considered to be afforded by the International Exhibition at Paris, of the inferior rate of progress recently made in manufacturing and mechanical industry in England compared with that made in other European countries. It has been stated to us that ths alleged inferiority is due in a great measure to the want of technical education, and we have therefore thought it desirable to ascertain from many English Jurors in this department whether they agree with this opinion."

Of these Jurors, one of the most eminent, Dr. Lyon Playfair writes:—

"I am sorry to say that, with very few exceptions, a singular accordance of opinion prevailed that our country had shown little inventiveness and made but little progress in the peaceful arts of industry since 1862. Deficient representation in some of the industries might have accounted for this judgment against us, but when we find that out of 90 classes there are scarcely a dozen in which preeminence is unhesitatingly awarded to us, this plea must be abandoned. My own opinion is worthy only of the confidence which might be supposed to attach to my knowledge of chemical arts; but when I found some of our chief mechanical and civil engineers lamenting the want of progress in their industries, and pointing to the wonderful advances which other nations are making; when I found our chemical, and even textile, manufacturers uttering similar complaints, I naturally devoted attention to elicit their views as to the causes. So far as I could gather them by conversation, the one cause upon which there was the most unanimity of conviction is that France, Prussia, Austria, Belgium, and Switzerland possess good systems of industrial education for the masters and managers of factories and workshops, and that England possesses none."

Canon Norris who was commissioned by the Committee of Council on Education to report upon that class of exhibits that included the appliances used in primary instruction, concurs with Dr. Playfair in the opinion that England is really losing her advanced position in those industries which involve the application of science to production, and that this result is due to her comparative backwardness in teaching applied science. He also believes that, while in the matter of primary education England is fully abreast of other nations, in the higher instruction, in all that tends to convert the mere *workman* into the artisan, Austria, France, and Prussia are clearly in advance. Professor Tyndall expresses a general concurrence in the views of Dr. Playfair, and adds "that in virtue of the better education provided by continental nations, England must one day—and that no distant one—find herself outstripped by these nations, both in the arts of peace and war." Similar testimony is borne by Professor Frankland, Dr. Price, and numerous other gentlemen eminent for their scientific attainments. All recommend immediate inquiry in order that the full extent of the evil may be known, and that suitable remedies, in the form of extended education to masters and workmen, may be at once provided.

The question raised by Dr. Playfair in reference to the mother country is not without interest to us, although our manufacturing industries are few in number and comparatively unimportant in extent. It may fairly be questioned, however, whether the lack of scientific instruction in the managers has not gone far to ruin one of the most promising of our industrial enterprises, and to continue the absurdity of sending sixteen thousand miles for a commodity which is literally under our feet.

But it is in relation to agricultural pursuits that the want of technical education will affect this colony most closely. After making allowance for the difficulties inseparable from the first settlement of a locality, for the inexperience of free selectors, for the effects of drought and flood, and for the various other circumstances which may be supposed to interfere with the proper performance of agricultural operations, it cannot be denied that the general style of farming throughout the colony is slovenly and wasteful in the extreme. In the first place, there is waste of land from careless ploughing, the soil being often scratched rather than turned, and stumps and weeds being allowed to occupy a considerable portion of the field. Again there is waste of manure, waste of productive power arising from the want of any rotation of crops, and above all waste of *time*. The perpetual alternation of wheat and maize crops renders unavoidable long periods of absolute idleness, while the remainder of the year is spent in exhausting toil. Most teachers located in agricultural districts can bear witness to the destructive effects of the present mode of farming upon school attendance, and would hail with the greatest satisfaction any change that would more equally distribute the work of the farm through the different seasons of the year.

Like every other pursuit involving the acquisition and practical application of knowledge, agriculture requires to be studied and practised. The scientific facts upon which its operations are based must be fully understood, and some expertness must have been gained in its actual processes before a man be properly termed a farmer. But if we inquire how this knowledge and experience are to be gained, we can receive but one reply. At present there is no systematic means by which young men could qualify themselves to cultivate land with intelligence and profit. The obvious remedy for this state of things is the establishment of Agricultural Schools, either as separate institutions or in connection with existing schools under the Council of Education. The course of instruction, in addition to the ordinary school subjects, would embrace all those branches of natural and experimental science which lie at the foundation of scientific agriculture. The elements of Geology and Mineralogy, of Meteorology so far as seasons and climates are concerned, of Chemistry, of Botany, and of Mechanics would be included; and such a course, in conjunction with practical training in farm work, would contribute in no small degree to the education of a race of farmers worthy of the name. Should an objector imagine that the course now suggested is too extensive, he may be reminded of the restriction which applies to the teaching of all subjects—that no pupil should receive instruction which he is not fully able to understand and profit by. This practical limitation would prevent the instruction in Agricultural Schools from becoming too theoretical, and would preclude the pupils from appearing as a batch of professors instead of farmers.

The benefits which might be expected to arise from the establishment of Agricultural Schools are numerous and important. The ordinary operations of agriculture would be performed in a more effectual way, inasmuch as the farmer woulld have a more intelligent apprehension of their purpose as means to certain ends. The slovenliness which now detracts so greatly from the profit of farm labour would disappear. Every available product of the soil would be utilised and much of the waste now common would be saved. Further, as all the work of the farm would be performed by persons who understood the object of each process, there would be a great economy of time and labour.

But the advantages of Agricultural Schools would be most fully perceived in connection with the cultivation of new products. Experience has shown that, with cultivators of the existing stamp, there is little hope of permanently introducing any new staple. Sorghum was tried for a short time and gradually abandoned. Sugarcane is becoming a favourite just now, but with no prospect of general adoption. But, let the rising generation be practically taught to cultivate sugarcane, and in a few years colonial sugar will have become an important item in our staple products. Cotton, flax, and silk may also be included in the list, while the cultivation of the olive, arrowroot, and various other plants would be commenced or greatly extended. Suggestions on these matters have frequently appeared in the colonial journals, though as yet with very little practical effect. But when once the road to success has been practically pointed out, numbers will be eager to follow.

It will be seen from the foregoing remarks that, while we admit the importance of technical education in all departments of industry in which scientific knowledge can be applied, we are yet of opinion that agriculture stands most in need of immediate attention, and the most direct means of effecting improvement in this important branch is by the establishment of Agricultural Schools. If we keep in view simply the welfare of the great multitude of free selectors and their children who bid fair to become the most numerous class in the community, we still see reason to regard the instruction in agricultural science which such schools are capable of affording not so much as a boon as a necessity.

SCHOOL FEES.

The provisions of the Public Schools Act with reference to School Fees seem to be but imperfectly understood. Not only is there much uncertainty in the minds of teachers as to the effect of the clauses bearing upon this question, but many parents appear to have adopted an interpretation of the law never intended by the Legislature. Numerous complaints have reached us of the difficulty of inducing parents to pay school fees, a prevalent notion being that, in schools supported by the State, education is now free; and teachers find themselves placed in a most unpleasant position by being compelled to take legal proceedings in order to obtain payment of their lawful dues.

With a view to clear up existing doubts, and to remove some of the difficulties that surround the question, we purpose to give a brief analysis of those sections of the Public Schools Act and of the Council's Regulations which relate to school fees. A few suggestions to teachers will be added as to the most desirable course to be followed under the circumstances.

The Act embodies three well-defined principles with regard to the payment of school fees:—

1. Fees are to be paid in every school as part of the remuneration to the Teacher or Teachers.—(Section 16.)
2. The ascertained inability of parents to pay fees is to form a sufficient ground for giving free education to children.—(Section 17.)
3. Children are not to be debarred from receiving education on account of the fault of their parents or guardians, against whom summary proceedings can be taken for the recovery of school fees.—(Section 18.)

Acting upon these principles, the Council, in the Regulations, expressly recognises school fees as a part of the teacher's remuneration, (*Art.* 43,) and defines the mode in which fees are to be apportioned if there be more than one teacher employed in a school. Further, the duty of ascertaining whether parents are unable to pay school fees has been confided by the Council to Local Boards, (*Art.* 70,) and it is understood that they are empowered to order the admission of pupils without payment. Although not expressly stated, it is implied that a teacher cannot take proceedings in the name of the Council for the recovery of fees, unless the Council's permission has been previously obtained.

It is unnecessary, for our present purpose, to discuss the question of "Free Education," or to inquire whether part payment of fees is an arrangement likely on the whole to be advantageous to a teacher's character and well-being By law, teachers in the Council's service are to be partly remunerated by fees, and their salaries have been fixed at existing rates upon the assumption that they will receive a substantial recompense from the parents of their scholars. What then can be more reasonable than that teachers should expect to receive what the law allows and what is supposed by the Council to be actually paid to them? These considerations should be kept in view by Local Boards when they suggest to the Council the rates of school fees which, in their opinion, parents ought to be called upon to pay. The rate of payment should be adjusted as nearly as practicable to the means of the persons who have to furnish the money.

Teachers, almost without exception, would willingly relinquish all claim to school fees in the case of children whose parents are known to be unable to pay, and would most willingly carry out that provision of the law which requires that such children should be received and instructed in the same manner as other pupils attending the school. When seasons of general depression occur through floods, drought, or failing of crops, and parents are deprived of the means of paying fees, teachers are quite willing to forego that part of their income and to accept the unavoidable misfortune with unrepining acquiescence, as they would any other providential visitation, trusting with the return of more prosperous times to share in the general increase of means. But the plea of poverty has been advanced so often, and upon such insufficient grounds, that teachers have frequently good reason to consider themselves imposed upon. While this is true of individual instances, it is equally pertinent in the case of whole districts. When no calamity brings ruin upon a large tract of country, and when the rewards of labour are within the reach all who strive to obtain them, it is, to say the least, discouraging to find the payment of fees withheld under the pretence of poverty. Apart from the pecuniary loss entailed upon them, the conviction of the utter falsity and meanness of the pretext renders conscientious teachers disgusted with their position and with the people who act in so unprincipled a manner. Further, parents sometimes play upon the generous feelings of the teachers who, rather than see children kept from school, consent to receive them as free scholars, being at the same time fully aware that the real circumstances of the case afford no justification for such a course. The teachers thus suffer a serious diminution of an income seldom sufficiently large to form an adequate remuneration for the services rendered.

While teachers feel no objection to receive as free scholars, children whose parents are unable to pay for their education, they conceive themselves entitled to demand payment from those who are simply unwilling to deny themselves the slightest gratification for the benefit of their offspring, or who are dead to all feeling of moral obligation in the matter. In such cases the Council, we believe, would readily grant the required permission to take legal proceedings. In one point of view, it seems to us a duty teachers owe themselves and the profession to compel payment of school fees by those who cannot justly claim exemption on the ground of poverty. Teachers, however, are not insensible of the dangers of such a course, and many would probably prefer the pecuniary loss to the annoyance and discomfort which a successful action against an unscrupulous person would entail.

Teachers would be greatly assisted if Local Boards, in the exercise of the powers confided to them by the Council, would refuse to exempt from payment parents who failed to show that they were in really indigent circumstances. A still greater aid would be derived from the moral support which Local Boards could extend to teachers when suing for the recovery of school fees. To this end we would counsel teachers never to take any legal steps for that purpose without consultation with their Local Boards.

In concluding these observations, we would remark that no child can, under any circumstances, be excluded from a Public or Certified Denominational School, on the ground that school fees are not paid. Teachers in the mean time need to act with much patience and forbearance, and with equal discretion. They must wait in the hope that, in time, public sentiment will either require the total abolition of school fees and the adequate payment of teachers from the public revenue, or support them in demanding the fees from all whose means enable them to pay.

ANALYSIS OF SENTENCES.

(*Continued from No.* 1.)

I. The Simple Sentence.

Having in our last number introduced the Analysis of Sentences, we now propose to enter upon the subject in detail, and, with this view, take up the consideration of the Simple Sentence.

30. A sentence—as previously stated—is said to be *simple*, when it expresses a single thought—*i.e.*, when it contains one *direct* statement, and one *finite* verb.

The two essential parts of the Simple Sentence are the Subject and Predicate.

THE SUBJECT.

31. The word or expression which indicates the person or thing, of which something is affirmed, is called the *Subject*. This may be a noun, or any word or words used in place of a noun, as

I.	A Noun	*Flowers* bloom.
II.	A Pronoun	*He* spoke.
III.	An Adjective	*Many* were invited.
IV.	A Verb in the Infinitive Mood	*To err* is human.
V.	A Clause	*That Sydney existed in the days of Dampier* is untrue
VI.	Two or more Clauses as	*That trade languishes, that prosperity decays, and that many want bread*, are frequent complaints.

32. Should the Subject consist of one unqualified term, it is spoken of as the *Simple Subject.*

33. If the Subject consists of a word, with one or more qualifying words, it is said to be enlarged, and is then known as the *Enlarged Subject.* This may occur under the following circumstances.

I. By a noun in apposition, as, Howard *the philanthropist* died in Russian Tartary.

II. By a pronoun in the possessive case, as, *His* brother will recover.

III. By a noun in the possessive case, as, *Sebastian's* crown was in danger.

IV. By an adjective, as, A *virtuous* woman is a crown to her husband.

V. By a preposition and its case, as, A spring *of water* has been struck.

VI. By a phrase, as, America, *a large continent in the Western Hemisphere*, has been called the "New World."

VII. By a participle or participial phrase, as, The Empire, *being dismembered*, crumbled to pieces.

VIII. By several adjuncts employed successively. Thus—

"The *silken*, *sad*, *uncertain* rustling *of each purple curtain*,
Filled me, thrilled me with fantastic terrors never felt before."

34. The mode in which the Subject is enlarged may be thus shown—

The steamship ....departed.
The steamship Atrato ....departed.
The powerful steamship Atrato ....departed.
The Republic's powerful steamship Atrato departed.
The Republic's powerful steamship Atrato of
3000 tons burden ....departed.
The Republic's powerful steamship Atrato of
3000 tons burden, being new, swift, and
ready for sea ....departed.

35. Here it will be seen that the word *steamship* is the Simple Subject, and it remains the Subject throughout. All that has been added is merely to qualify it, that is, to make the idea conveyed more clear or more comprehensive ; but no assertion is conveyed except by the verb *departed.* It will furthermore appear that whatever of these enlargements are removed, (and they can all no doubt be expunged,) the Simple Subject and Predicate must remain as indispensable, being the foundation and essence of the sentence.

We need scarcely add that the Subject of a sentence is either a noun in the *nominative case*, or equal to one so circumstanced.

II. The Predicate.

36. Having thus far treated of the *Subject*, we now proceed to consider the other essential part of a Simple Sentence, *i.e.*, the *Predicate.*

37. By the Predicate, we understand the word or words by means of which, something is affirmed of the subject.

It either asserts or denies—

I. That the Subject *is* something, as Oscar is a Tribune.
II. That the Subject *does* something, as Oscar governs wisely.
III. That the Subject *suffers* something, as Oscar is revered by the people.

THE SIMPLE PREDICATE.

38. If we examine any sentence, however simple in its expression, such as " Day dawns," we may observe that the Predicate is a verb, and that the verb is *finite*, that is, limited by its nominative as regards number and person, and by other conditions as regards tense and mood. Again in the expression " Life *is sweet*," both of the italicised words are necessary to convey the intended idea, which, it may be further remarked, is but a single idea. In these cases the Predicate is said to be Simple.

39. The Simple Predicate is therefore either—

I. A single verb.
II. The verb " to be."
III. The verb " to be " with a noun or adjective attached so as to form but one idea, thus—

Shadows *fly*.
God *is*.
God *is holy*.

THE ENLARGED PREDICATE.

40. But we shall find that it is sometimes necessary to affirm something respecting the Subject, which cannot well be expressed by a single verb, or by a verb with a noun or adjective. Observe for example the following sentences—

Snow *falls.*

Snow *falls in December.*

Snow *falls most heavily in December.*

Snow *falls to earth most heavily in the long, dark, cold nights of December.*

41. Here the original statement respecting the Subject "snow" is simply that it "falls," all the other words being modifications of the assertion made by this verb. When the Simple Predicate is enlarged by the addition of modifying or limiting words, it is said to be extended, and the superadded words form what is called the *Extension of the Predicate.*

42. In the expression "Attila overran," there is obviously something wanting to complete the sense. The question would probably be asked—"What did Attila overrun?" We might then say "Attila overran Italy." The word added completes the sense which was previously imperfect, and hence the word "Italy" is called the *Completion of the Predicate.*

43. We have now seen that the Predicate may be enlarged in two ways—

I. By Completion.
II. By Extension.

THE COMPLETION OF THE PREDICATE.

44. The Completion of the Predicate is necessary when the single verb does not fully express what the Subject *is* or *does.* This is the case with all *transitive verbs*, and with a few others chiefly denoting to call or to name, to be made, or to *become* something.

45. The following examples will illustrate these views—

Subject.	*Predicate.*	*Completion of Predicate.*	*Kind of Verb.*
Alexander	conquered	Tyre	(transitive.)
Richard	was surnamed	Cœur de Lion	(calling.)
Dioclesian	was elected	Emperor	(forming.)
Charles	became	an outlaw	(becoming.)

46. A little consideration of the foregoing examples will tend to show that the word forming the Completion of the Predicate is either the object of a transitive verb, or that it occupies the place of the object. Hence it is that the Completion of the Predicate is often styled the *Object.*

47. The Predicate may be completed—

I. By a Noun in the objective case, as He touched the *talisman.*
II. By a Noun in the nominative case, as His name is *Dante.*
III. By a Pronoun, as They welcomed *him.*
IV. By an Adjective, as The Spartans respected the *aged.*
V. By a Participle, as The natives practised *swimming.*
VI. By the Infinitive, as He desired *to resign.*

VII. By two Nouns, or a Noun or Pronoun in apposition, as
We consider Bacon a correct *reasoner*.
He was called *Alfred* the *Benefactor* of his country.
We style them *Zoophyta*.

It is proper to remark here that sometimes two nouns following each other are not in apposition, and that accordingly only one of them can be regarded as the Object or Completion of the Predicate. In "He teaches the *scholars* writing," the sentence is properly resolved into "He teaches writing *to* the scholars." Again, "The Beggar asked alms" is evidently The Beggar asked *for* alms. "The Beggar asked him for alms," is The Beggar asked for alms *of* him. The propriety of this limitation will be abundantly evident from the following—"Saddle me the ass; and they saddled him the ass." The meaning is plain—Saddle the ass *for* me; and they saddled *for* him the ass.

VIII. By a Phrase or Clause, as He loves *walking in the avenue*.
The admiral declared *that he would go into action at once*.

48. The following examples belong to a class of sentences which present some peculiarities—

He dyed the curtains a red colour.
The King accused his subjects of treason.

In such cases the solution would be as follows—

Subject.	*Predicate.*	*Completion.*
He	dyed of a red colour	the curtains.
The King	accused of treason	his subjects.

49. It will now be seen that the Object or Completion of the Predicate may be enlarged in the same way, and by the same means as the Subject.

EXTENSION OF THE PREDICATE.

50. When the Simple Predicate is enlarged by the addition of modifying or limiting words, it is said to be extended. For example—

51. Charles advanced *in a few weeks*, at the head of an army, by rapid marches, into Russia, to dethrone Peter the Great, but without success.

Here the Simple Predicate is the word "advanced." All the words which follow, serve only to qualify the assertion conveyed by that word, and are *extensions of* the Predicate.

52. The Predicate may be extended—

I. By an Adverb, as She sings divinely.

II. By a Preposition and its case, or (Prepositional Phrase), as Gold is found *in California*.

III. By a Participle used adverbially, as He died *rejoicing*.

IV. By the Infinitive when it denotes purpose, as He reads *to learn*, *i.e.*, He reads for the purpose of learning.

V. By a combination of several of the foregoing means, as He attends *daily*, *at his post*, *to obtain the means of subsistence*.

53. It will be seen that in each of the above cases, the Extension of the Predicate is either an adverb, or an assemblage of words equal to an adverb.

54. The Simple Predicate may be modified or limited in respect—

I. To the time of the action spoken of.
II. To the place of the action.
III. To the manner of the action.
IV. To the cause or purpose.
V. To the effect.
VI. To the Instrument.

Examples—I. He started *at sunrise.*
II. They reside *in Tasmania.*
III. I come *quickly.*
IV. Steam is employed to *facilitate communication.*
V. Heat was applied *without benefit.*
VI. He wounded him *with a spear.*

55. Extensions of Predicate are called *Adjuncts*, and fall under one of the above heads as adjuncts of Time, Place, Manner, Cause, Effect, &c.

Returning to the sentence formerly given, we have—

Subject.	*Predicate.*	*Adjunct.*	
Charles	advanced	in a few weeks	(*Time*)
		at the head of an army	(*Place*)
		by rapid marches	(*Manner*)
		to dethrone Peter the Great	(*Purpose*)
		but without success	(*Effect*).

56. It does not necessarily follow that where there is a Completion of the Predicate there must also be an Extension, or where there is no Completion an Extension is not required. The one exists independently of the other; but when the verb forming the Predicate is transitive, there *must* be an Object, Art. 44.

TEACHERS' RESIDENCES.

Now that the uncertainty so long felt respecting the final settlement of the Education question no longer exists, it behoves Teachers to apply themselves to their work with a good will, and the earnestness that arises from a conviction, that on them, and on them alone, depend not only the success of the measure recently passed by the Legislature, and the culture of the rising generation, but also the status which the teaching profession is to obtain in the community. There is nothing that will go further towards smoothing the way in the prosecution of their work than bearing a respectable appearance. Among the exterior objects which lead the public to form opinions, there is none more prominent than the condition of the premises in which a man is content to dwell. Hence, when an intelligent Teacher of high moral feelings receives his appointment, there is no subject connected with it, that gives him more anxiety than the sort of residence attached to the school. No doubt he would like to know what sort of place that is in which he is to be located. Is it an agricultural settlement? a village in an out of the way place?

or a nice country town rising into importance? He feels some desire to ascertain what the fees are likely to amount to, and he is sure to inquire of some friend who knows the locality, what is the general character of the people with whom he will have to do. But there is no point on which both himself and family feel more concern, than the sort of premises in which he shall be domiciled. This indeed is quite natural, for in addition to the preceding considerations, he knows that among strangers, in a strange place, performing arduous duties with delicate material, the home he occupies is the scene of his highest enjoyment. Every nook and corner of it will be associated with incidents of endearing interest to every member of his family, and especially the younger. Years may roll on, and removals into the world may take place, but that room, and that corner of the garden, the bower at the gate, the rose bushes close by the shoolroom, the trailed plants at the garden fence, the gravel walk in front of the house, and the climbers that peep in at the bedroom window—all have their particular associations in the minds of the little ones that spent their earlier years there, and who possibly were born there. Time passes on, and distance lends its enchantment to the dear spot which, however wild the locality, however unfriendly or unsociable the people, however straitened the circumstances, however anxious the father and mother during those years, however closely kept under restraint among strangers of different feelings,—possesses an interest so strong in their fond recollections that they would like to see it again. How important is it then that the picture on which the imagination loves to dwell through life, should be rendered as pleasing as it is possible to be!

A question now arises—is it possible under such unfavourable circumstances as are here supposed, to prepare such a picture as will be worth storing in the memory? We answer emphatically yes! and by very simple means. Let Teachers make their homes their castles, and the allotments on which they are built their pleasure and recreation grounds. They have, when compared with the cottagers of England, abundance of leisure to erect the neat fence, which however inferior, will shortly be ornamented with the runners and evergreens planted close beside it; to clear the rest of the ground and break it up; to lay out the pretty walks through the newly-formed garden; to collect plants, seeds, and cuttings from the more respectable inhabitants in the neighbourhood; to lay out the beds with taste, and put in what they could succeed in procuring for the now admired garden. The cottagers in England, and in many parts of Ireland too, with little time to spare, and still smaller means to gratify so laudable a taste, make their homes so neat, so tidy, and so glowing with shrubs and flowers, as to cheer the heart of the weary traveller as he passes along the Queen's highway. And is not the same sometimes seen in Australia? Let us fancy a stranger on a visit at a house not far from the Public School. He gets up early to have a look round while the dew is on the grass, and the cattle are just beginning to rise to crop the tender herb in the freshness of early morn,—

the thought forces the dullest intellect to be almost poetical—he look overs there at that pretty garden, at the house near the building which he takes to be the schoolhouse from its having a bell attached. There is a man taking a walk through it. Occasionally he stoops for a while; he rises, proceeds a little farther, stoops again; he goes and takes a spade, does something, and passes along. He is followed by two or three little ones that now make their appearance. They look at the opening buds, and remark on the growth of the tender plants just above ground. Who and what is he? That is the schoolmaster, who came up here about twelvemonths ago. He is taking his usual morning walk in his garden, which he found on his arrival a complete bush. He broke up the ground and put up that primitive sort of fence, which you see now covered over with evergreens. He laid out the beds and walks with great taste; and such is the care he bestows on it, that there is not a weed to be found, but is drawn up by the root as soon as it makes its appearance. There is not a vine but is trailed with the greatest exactness, in order to promote its growth and vigour. He has everything in perfect order now, and the pearly dewdrops on the leaves of the plants seem to afford him unspeakable delight. The little ones, and even the school-children, derive such pleasure in looking at the flowers in that garden, that they seem inclined to turn botanists themselves. "Well," replies the stranger, "it would be good for the country if there were many of his stamp in the profession. Such men must be not only persons of taste, but of high intellectual ability, men of education, and strict morality. Depend upon it, the man who bestows so much care upon the cultivation of a plot of ground, can never be remiss in the culture of the human intellects he is expected to mould. Were he disposed to spend his evenings at the tavern instead of his study, he would not be in his garden at such an hour, inhaling the sweet balmy odours of the opening flowers." Such are the comments and commendations that are expressed when such taste is manifested.

A Teacher once doing a little in this way, (but that little seemed to be too much when there was a probability of his having to remove to another sphere of labour,) said to his friend who was admiring the little he saw, "I am doing this, it may be, for a stranger who, when everything comes into a state of perfection, will enjoy it, regardless of the hand that plants." "Very true," said the friend, "but you do not know who may be at this moment planting for you with still greater taste and at greater expense." The remark was well timed and irresistible. If each Teacher did what he could in the way of improving his residence, and laying out the ground connected with it as a garden and courtyard, after allowing sufficient space for a playground, the borders of which might be also laid out with taste and care as flower beds, the two acres we usually find granted as sites "for a Public School" would then be an ornament to the locality, and the source of much pleasure, and if planted with fruit trees, of profit to the occupant. The removal of a teacher to another school would then be divested of much of the unpleasantness that is sometimes felt at present; for instead of depriving him of the fruits of his industry, he would enter on the enjoyment of the improvements made by others, possibly greater than his own, while the change would certainly tend to increase his knowledge and experience. Were the practice to become general—and there is no reason why it should not—no one can sufficiently estimate the benefit it would be to the Teachers themselves, and the influence it would have on the public mind. Not only would it tend to raise the character of the teaching profession in public estimation, but it would exert such an influence on the disposition of others around them, and especially the young taught in such places, that a taste for home comforts and neat residences would be created; the example would become general, and in a little time the bare unsightly slab hut would disappear, and give place to the neat cottage with its well stocked garden and neatly trimmed hedge. In a sanitary point of view, the labour would be amply repaid; for it is well known that the aromatic odour of plants and flowers are among the best antidotes for epidemics. It is to be hoped that inspectors will encourage those who set the example, and that local committees will take care that the work of an outgoing teacher will not be destroyed by unruly boys or trespassing goats, before the arrival of his successor.

A SYSTEM OF TEACHING ARITHMETIC.

[*We have considered it desirable, in order to draw attention to various methods of teaching and to evoke discussion, to afford contributors opportunities of stating their views on such points; but it should be understood that the Conductors of this Journal do not necessarily identify themselves with the opinions so expressed.*]

Every branch of the education given at our Primary Schools admits of a great variety of methods by which it may be taught. The variety of systems may be regarded as the various ways in which a simple fact may be expressed. The system does not alter the science, nor the way in which a fact is related alter the fact itself. Grammarians may treat of grammar as they please, but they can no more alter the conventional usages of language, than geographers can change the physical features of a country; both remain the same, let the writers on these subjects say what they please. In treating of grammar there is great latitude allowed, because the exact laws of correct expression are not so definitely settled as are those of other sciences. Arithmetic—"The Science of Numbering"—has its exact laws, which can neither be altered nor improved, and yet we have our systems of arithmetic; but they, as we have already intimated, are but different modes of setting forth the same thing, and of showing how, according to the recognised laws of this science, computations can be made; each of these possessing its peculiar excellence or defects. One of the greatest difficulties felt in treating on subjects of a scientific nature, is the inaccuracy of language;

for while certain terms are used and understood according to the ideas of the person giving expression to thought, the same words considered by a party entertaining no ideas at all on the subject, or holding ideas of a different character, and being habituated to understand the terms here applied in a very different sense, will be ready to misconceive the meaning of the instructor. Hence the difficulty of dealing with children and persons of limited intelligence. It is the part of a judicious instructor to anticipate the tendency to misconceive on the part of the learner, and to provide, by the use of familiar language and illustration, against such a contingency; but so liable are people of every shade of thought to misapprehend, that to supply cautions on all the points on which misapprehension may arise in a treatise on any subject, so technically complete, would render it too voluminous to be of any use.

We must therefore on all subjects consider brevity as well as the adaptation of the terms we use to the understanding of those who are the subjects of instruction. Many have written excellent treatises on arithmetic as well as on other subjects, but bearing in mind what has already been glanced at, we may feel certain that we are far from the Ultimo Thule in the mode of giving instruction in our Primary Schools.

The first step to be taken in arithmetic is to enumerate. We see several objects and we count them: one, two, three, &c. The next thing required is symbols or figures that will represent these words 1=one, 2=two, 3=three, 4=four, &c. When we have to instruct little children, we shall find it a good plan to draw chalk lines on the blackboard, leaving the child to count them himself. Thus: | | | |. He will point to the first, and should he not know it previously, he ought to be told, we say to it *one*. If he cannot tell what to call the second, let all but the first be rubbed out. That is *one*. Make the second, then we have *one*, *two*: and then another is drawn, we have then one, two, three, four, and so on until we come to *nine*, still drawing a stroke for every number counted. He then has to repeat the expression of numbers; but it is not observed until he gets as far as 19, when he will become altogether lost, or acting from analogy, he will most likely call the next *tenteen*. Before taking the child further he might be shown that 3 represents | | |, 2= | |, 4= | | | |, 7= | | | | | | |, &c. The word digit, (finger) is a very appropriate expression; for as soon as a child perceives the difference of numbers, he at once sets to counting on his fingers. The number of marks on the blackboard assists his mind in remembering the value and name of the symbol or digit. He can now be readily taught to add and subtract, *e.g.* 3 and 4 how many? This may be illustrated thus: | | | =3 and | | | | =4 = | | | | | | | =7, also 4 and 5? After pausing for a reply, show | | | | =4 and 5= | | | | | =9. We have counted on from four to five, six, seven, eight to nine, just as if the two lines of strokes were in one line, as | | | | | | | | | =9. Now we have 9, how many would then be left were 7 taken away?

or 7 from 9, how many remain? We show the given number in chalk marks, thus: | | | | | | | | | and by striking out 7, which we count as we strike out we have | |. The child at once perceives there are only two left.

Numeration, although simple, is often mystified, and seldom clearly understood even by pupils of larger growth. The writer had a beautiful illustration, one day, when looking at some persons loading a dray with bricks at a kiln, they threw the bricks to the man in the dray, counting them as they proceeded 1, 2, 3, 4, 5, 6, 7, 8, 9, and then instead of saying ten, threw one aside, calling out "tally," and went on again 1, 2, 3, &c., until they came to nine, and again it was "tally" for the next, and another brick thrown into the tally heap. Every brick in this heap represented 10, and if in reckoning the number of tallies, they proceeded as they did with the rest in the dray, every tenth of the tallies would represent a *centum* or hundred. Whether they proceeded with the tallies in this manner the writer cannot say, as so long a time having elapsed since then; but the principle of numeration would have received a good illustration if the reckoning was continued as is here supposed. The surveyor with his chain and arrows affords a similar illustration of repeating the symbols of unity after every nine counted. When the hundreds come to be reckoned, and we find more than nine, we repeat again, calling the tally this time, mille or thousand, and so on to millions and even to infinity. The word *score* for twenty may be derived from this source. Suppose it was sheep that were counted, we could not throw one of the animals aside for a tally as we could a brick, but we might make a score or notch every time we said twenty; then we could count the scores or notches and say there were so many scores = to so many twenties.

This mode of repeating arose from a necessity to be quick in enunciation. Did we not repeat we would have to find a different word and different symbol for every number, which would be an impossibility where large numbers were involved. The plan adopted for keeping the account of the number of bricks, however rude and primitive, is not without its suitability to the circumstances of the case. It would be altogether too tedious and confusing to be calling out one thousand seven hundred and ninety-seven, one thousand seven hundred and ninety-eight, &c. Our weights and measures are arranged on the same plan, to avoid the repetition of many words at every number. We might, were we so disposed, repeat after 15 or any other number as well as nine, but then we would have to invent so many more additional words as well as a corresponding number of symbols to represent them; and even then, arithmetical processes of computing would become proportionately difficult the higher the numbers rose before we repeated. For instance, it is readier to multiply by 2, 3, or 4 than it is by 8, 13, or 15. Again, if we repeated at a lower number than 9, the repetition would itself occur so often as to become troublesome. The number 10 (one for each finger) is very appropriate.

So soon as the child can readily count up to 20 and tell the name of the digits, there will be very little difficulty in getting him to comprehend the repeating of which we have been treating. He counts the strokes on the blackboard up to nine, then he "tallies" or puts down 1 for it in a second line, and the 0, after it, signifies vacuity or nothing in that place, the tally and no more, the next number the tally and one, or eleven; the next to this is two more than the number where we tallied or twelve, the next is three and ten, or thirteen; four and ten, &c., until we come to twenty, when we change the digit indicating the number ten, to two tens or twenty. It was a common way of enunciating a number formerly to say six and ten, six and twenty, four and thirty, &c. A child should be informed that the second digit implies the number of tens; that words thirty, forty, fifty, &c., are simply a short way of saying three tens, four tens, five tens, &c., until we reach nine tens and nine; but as we have no higher number we must go over the one, two, three again, but using a new term to show how many tens of *tens* there are. This set of numbers we call hundreds as before stated. When a child can read three digits readily, there will be little difficulty in getting him to read any number of digits. Take 609, *e.g.*, he reads the nine, there are no tens, the six indicates the number of hundreds. Then reading numbers as he does any other kind of reading, he begins at the left hand and tells out six hundred no tens and nine. He may be informed that when there are many digits they they are pointed off in groups or periods of *three* digits each, the group to the right is called the units period, the next group the thousands period, the next the millions, &c. Suppose the number to be 407900563. The pupil readily points it out thus: 407,900,563. Let him then read off each period separately, as if there were no others but those three respectively. Then let him be told, the group or period to the right hand indicates the number of units; the second group, the number of thousands; the third, the number of millions; and these words should be written on the blackboard over their respective periods thus:—

Millions.	Thousands.	Units.
407.	900.	563.

beginning now at the left hand, the pupil easily reads off four hundred and seven *millions*, nine hundred *thousands*, five hundred and sixty-three *units*.

Take this number, 78006004. The pupil must be careful to remember that while he reads numbers from the left hand to the right he must reckon, or point off, from the right hand to to the left, thus—78,006,004. In this instance, we have only two digits in the millions period. The reason is plain; we have no more digits to put in, unless we supply an 0. The 0 may be supplied to make up the three digits, thus—078. As 0 to left hand is no use they will do better without it. Now if what has been shown in the preceding number be borne in mind, he will read each period separately, first—seventy-eight, no hundreds or tens, but six; in the next period, no hundreds, no tens, but four. He then, remembering what each period represents, reads: 78 millions, 6 thousands, and 4 units. Any number may be treated in the same way.

(To be continued.)

EXAMINATION PAPERS.

We have now to answer the second question in our paper—"Define Moral Influence as applied to the government of a school." It is unlikely that a Teacher will have met with precise information on this subject in the exact form he requires. He may have read books in which Moral Influence is treated of with more or less fulness and perspicuity, but his first impression on reading the question will probably be that it is a subject not susceptible of exact definition, and respecting which a great variety of opinions may be entertained. He will therefore be compelled to recall to mind his previous studies on this point, and must now test the value of his previous reading and reflection on School Management.

The mental process to which our examinee now submits himself will in all probability be somewhat of the following character.

1. He will perceive that *Moral* Influence is opposed to some other influence—the fear of physical pain resulting from the infliction of corporal punishment.

2. He next endeavours to analyse the means of influencing children, other than corporal punishment. He will probably be able to enumerate a considerable number of such means, all appealing to some *motive* in the children's minds. If these motives be *right* motives, the influence thus gained will be Moral Influence.

3. The origin of Moral Influence must be sought in the constitution of the pupils themselves, and in the Teacher's force of character and knowledge of human nature. Certain peculiar qualifications are necessary in the Teacher, the absence of which incapacitates him from ruling by Moral Influence, and compels him to resort to physical punishment as the means of governing his school.

4. If he then attempt to classify these motives, they will be found to fall naturally under two heads—the hope of reward and the fear of punishment. Of course, these terms are used in their widest sense. A reward need not be a bribe, as is often the case, for a judicious teacher can make his own approving smile the most coveted reward of his pupils; and similarly his look of displeasure may be their severest punishment.

5. The Teacher's skill may be shown in the manner in which he appeals to these motives. For example, the highest motive of all—duty—is unknown to very young children, and an appeal to it would be ineffectual as regards the government of a school; but the *affections* are strong at that age, and through them such

pupils may be easily and powerfully influenced. Again, with older children it sometimes happens that the sense of duty is weak and even dead. In such cases, another and, obviously, a lower motive must be appealed to.

6. By studying the peculiar character of each child, the influence to which he is most susceptible may soon be discovered. Few are insensible to kindness: none, it might almost be said, to the love of praise. Care must be taken, however, that, in appealing to the lower motives, the Teacher does not unconsciously *de*moralize his pupils. He must regard such motives simply as steps to the effective employment of higher ones, and his test of success in this particular will be the gradual improvement of his scholars and their increased susceptibility to right influence and power of resisting evil.

Summing up these remarks, the Teacher will have formed some such opinions as these:—

1. Moral Influence is opposed to the use of corporal punishment *in general*.
2. It is produced by appeals to right motives in the pupils.
3. These motives originate in the nature of Teachers and pupils.
4. They may be classed under two heads—rewards and punishments.
5. They must be appealed to judiciously by a Teacher, who is himself actuated by right motives and capable of discriminating the effects of his appeals.

INTELLIGENCE.

VICTORIA.—REPORT OF THE ROYAL COMMISSION APPOINTED TO ENQUIRE INTO AND REPORT UPON THE OPERATION OF THE SYSTEM OF PUBLIC EDUCATION.—On the 4th September, 1866, the Hon. G. Higinbotham, M.P., Attorney-General; the Hon. A. Fraser, M.L.C.; the Hon. C. J. Jenner, M.L.C.; the Hon. G. Barker, A. Love, Esq., M.P.; R. W. Pohlman, Esq., Judge of the County Court of Bourke; J. E. Bromby, D.D.; A. Morrison, M.A.; J. Corrigan, LL.D.; G. Rolfe, Esq., and C. Dyte, Esq., M.P., were appointed by His Excellency the Governor of Victoria, Commissioners to inquire into and report upon the operation of the system of Public Education in the Colony of Victoria. The report was submitted on 29th January, 1867, and with Minutes of Evidence and Appendices fills about 400 pages of closely printed matter.

The substance of the report we place before our readers.

The Commission state that they held fifty-two meetings, and that they had forwarded one hundred and thirty copies of general questions to one hundred and thirty persons in various positions, who were believed to be interested in, and acquainted with, the subject of education, and had received fifty replies. Seven hundred and thirty copies of other questions had been sent to the head teachers of Common Schools, and the views of the teachers had been communicated to them through four hundred and fifty replies. Thirty-seven witnesses had been examined, and the evidence given is appended to the report.

Amongst the witnesses are the heads of all the leading denominations in Victoria, except the Roman Catholic Bishop of Melbourne, who was invited to attend and give oral evidence before the Commission, but declined on the ground that "through the action of the Government there is no recognised representative of the Roman Catholic Church on the Commission." The Commission felt reluctant, under the circumstances, to exercise their compulsory powers for procuring the attendance of any witness who objected to come before them, and therefore accepted from the Roman Catholic Bishop his replies in writing to the general questions.

The Commission acknowledge their obligations to the various witnesses for the promptitude with which they responded to the invitation to attend and communicate their views and the results of their experience; and also to the Members and Officers of the Board of Education for their readiness to supply them with information upon all subjects on which their assistance had to be asked.

In the report the plan of division adopted for the purpose of enquiry is followed, treating in their order the various subdivisions that group themselves under the three following heads, viz.:—

1. Present extent of Elementary Education in Victoria;
2. The nature and quality of Public Elementary Education; and
3. The existing machinery by which the system of Public Elementary Education is administered.

1.—Present Extent of Public Elementary Education in Victoria.

Number of Children under Instruction.

There are no statistics which show precisely the number of children in Victoria within the limits of the age commonly called the age of instruction. This age has different limits assigned to it in different countries. In England, the age of instruction is considered for statistical purposes as extending from three to fifteen years. According to the estimate of the Registrar-General, there are at present 170,000 children in Victoria within the age of instruction as fixed by the English standard. The number of children in average attendance at the schools under the Board of Education during the last quarter of the year 1865, was 49,218. The number of children on the rolls of the schools during the same time, was 64,926. The Registrar-General estimates the number of children attending private schools as 11,378.

The total number of children receiving instruction at private schools, and entered on the rolls of existing public schools, thus appears to have been, during the last quarter of 1865, 76,304. It would be erroneous to assume that all the children on the roll of a school at any given time are actually under instruction in the school; but, without making any reduction on this account, no other conclusion can be arrived at than that a very large proportion of the whole number of children within the age of instruction in Victoria were not receiving instruction in any public or private school at the commencement of 1866. The system of public instruction established by the Common Schools Act does not appear to have hitherto produced any proportionate improvement in the extension of the benefits of instruction aided by the State. The number of children on the rolls of schools under the Denominational and National School Boards in September, 1862—the date at which the present Act came into operation—was 56,743, out of 121,661, estimated by the Registrar-General as the number of children at that time within the age of instruction. These facts, unsatisfactory as they are when viewed by themselves, appear still more so when they are used as the basis of a comparison between the state of public instruction in Victoria and other countries. In England, where the condition of public elementary instruction is confessedly unsatisfactory, one out of every eight persons in the population is stated to have been, so far back as the year 1858, in the receipt of instruction, and the proportion is said to have increased in the year 1861 to one out of between six or seven of the population. In Victoria, one out of every eight persons appears to have been receiving instruction at the end of the year 1865. It must not be forgotten that the elementary education of the adult population of Victoria is considerably better on an average than that of the population of England and Wales. And it is a subject of grave reflection that, in Victoria, where the present generation is better instructed than the contemporary generation in the mother country, a system of public instruction maintained at a lavish cost and by means of a munificent national grant, should be allowed to exist, under which the next generation will not be so well instructed as the corresponding generation of Englishmen, while it will be greatly inferior in this respect to its parent generation in Victoria.

2.—EDUCATION IN TOWNS AND RURAL DISTRICTS.

The means of instruction are stated to be generally available in all the centres of population, but the case is very different in rural, and especially the pastoral districts. The deficiency of the means of instruction in the thinly-populated parts of the country is acknowledged by all the witnesses. "It is," to quote the words of one of the most competent authorities on the subject, "the most crying want at this moment of the interior." The evidence as to the best means of supplying this want is indefinite, uncertain, and hesitating. Three different schemes have been proposed:—

Firstly.—Some of the witnesses recommend the establishment of large Industrial Schools in various parts of the country, where the children of parents residing in the country districts could be collected together and boarded while they were receiving an elementary education. It is admitted that the unwillingness of parents to part from their children would be found to present a serious practical obstacle to the success of this scheme. The great expense, and the magnitude and difficulty of such an undertaking, appear to offer still stronger, and, indeed, insuperable objections to its adoption on an extensive scale by the State.

Secondly.—It is suggested that a capitation grant might be given to the parent, or to any other person, who could prove that he had imparted a certain amount of elementary instruction to any child. The danger of imposition would be a serious objection to this plan; but a cautious trial of it on a small scale, might be made with advantage.

Thirdly.—Most of the witnesses, but some of them with manifest hesitation and doubt, advocate the establishment of schools in country districts, with a reduced limit of numbers, and attended by a teacher, who should itinerate from one to another, either daily or twice weekly, or at longer intervals, according to the extent of the district, and the larger or smaller numbers of the population. It is conceded that this scheme would be costly, and that the quality of instruction would be very imperfect. Notwithstanding these objections, it appears to be the most practical of the various schemes that have been proposed, and immediate steps should be taken to give it a trial. Its success would depend, in a considerable degree, upon the co-operation of the settlers throughout the country: and it is gratifying to learn from all the witnesses, that the settlers generally are sensible of the defective means of instruction in their districts, and are willing, and even anxious, to contribute active aid to the central authorities in the attempt to supply this educational want.

3.—COMPULSORY EDUCATION.

Whilst the existing means of education appear to demand chiefly a more extended distribution, and a more economical management, rather than an increase in their amount, the Commission has been impressed with the belief—that the wilful neglect of existing means of instruction—is an evil of growing proportions and productive of increasing mischief. It is true that parents generally appreciate the advantages of education for their children; but the evidence appears to justify the conclusion that a class is growing up in the towns, and also in remote country districts, which is becoming more and more indifferent to instruction in proportion as it is becoming more destitute and degraded.

A large body of evidence has been received from all the most competent authorities, upon the question of the expediency of introducing into Victoria, a system of instruction forced upon parents by law. The result may be stated to be that opinion upon this subject is unsettled and nearly equally divided. Several of the witnesses, speaking evidently under a strong sense of the evils which a compulsory system is intended to remedy, and with perhaps insufficient consideration of the practical difficulties attending the adoption of their suggestion, confidently urge the adoption of a compulsory system. A nearly equal number of witnesses, of at least equally high authority, disapprove of a compulsory system; chiefly because they suppose that it would be distasteful to the feelings of the people, and that for this reason it would not be enforced in practice. There is a third class of witnesses who speak upon this subject with so much doubt and hesitation, that their opinion cannot be quoted on either side. The conclusion appears to be, that a compulsory system of instruction would not be so strongly objected to in Victoria, as it has been by some persons in England, on the ground that it is wrong not only in policy but also in principle. Its feasibility chiefly is doubted, and, if the means of enforcing such a system could be discovered, its adoption would be generally approved of and supported by public opinion.

Whilst fully admitting the divided state of public opinion in reference to this subject, as well as the serious practical difficulties that beset it, the Commission resolved to submit the recommendation that law rendering instruction imperative should be adopted in Victoria. The existence, in constitutional theory, at all events, of an equality of political rights between all classes of Her Majesty's subjects in this colony, suggests the paramount importance of early provision being made, by means more effectual than any that have hitherto existed, for the diffusion of sound instruction amongst the rising generation of all classes. The comparatively high degree of education of the present adult class seems to make the adoption of such means less difficult than it would be in the mother country, or than it may yet become in Victoria, if present opportunities are not immediately turned to account. It should be declared to be the duty of the parent to send such of his children as may be within the age of instruction to a public school for a period of not less than six months in the year, or to provide adequate education for them by other means. The burden of proving compliance with the law to the satisfaction of the justices might be reasonably imposed on the parent, and the obligation should continue until a child had passed the limit of the age of instruction, or had obtained, after examination by an inspector, a certificate of exemption from school attendance.

(To be continued.)

CEYLON.—REPORT OF THE CENTRAL SCHOOL COMMISSION FOR 1865-1866.—The Central School Commission furnish to the Legislative Council the following report for the year July 1st, 1865, to June 30th, 1866.—

On the 31st December, 1865, there were 103 Government Schools in operation which had on their rolls at that date 5291 pupils, with an average attendance, during the year, of 4141. This shows a decrease of 5 schools and an increase of 59 pupils as compared with the year 1864.

The expenditure on account of education, during the year 1865, amounted to £14,673 13s. 1d., shewing a decrease of £657 19s. 2¾d. as compared with 1864.

The amount realised by school fees in 1865 was £1774 10s. 2d., to which must be added £56 3s. 4⅛d., being receipts on account of stationery, shewing a decrease in the receipts from schools in 1865, as compared with 1864 of £308 1s. 2¼d.

The amounts of grants made to private and other schools during the year 1865 is £803.

Report of W. J. Sendall, Esq., Inspector of Schools, upon the local examination, 1865.—The total number of candidates examined in both parts of the examination was 65. The number of competing schools was 11. The number of candidates examined in the preliminary part was 45, of whom 20 passed, and 25 failed. The number examined in the second part was 21, of whom 9 succeeded in obtaining a certificate. There are a few points connected with the examination which call for special remark.

On previous occasions, the English written by the candidates has been dwelt upon at considerable length, and a number of specimens of their language quoted, which indicated something very seriously defective, either in the system of teaching English, or in the education of Teachers themselves, or in both. Out of many similar ones, a single specimen is taken, a paraphrase (by an unsuccessful candidate, but one who, had his English been only tolerable, would have passed with ease) of a not difficult passage from Milton. This is the passage :—

"His spear, to equal which the tallest pine,
Hewn on Norwegian hills, to be the mast
Of some tall admiral, were but a wand,
He walked with, to support uneasy steps
Over the burning marl,—not like those steps
On heaven's azure,—and the torrid clime
Smote on him sore besides, vaulted with fire."

And this is the paraphrase.—"The spear of that person, which was made of stones cut off from the Norwegian hills (or the hills of Norway) by the tallest pine, to serve for the mast of a tall admiral, was only a wand. He walked over the burning marl, in order that he may guard himself from uneasy steps. He walked not like with those steps with which he used to walk on the blue heaven, and the climate of the Torrid Zone."

This specimen will shew what sort of ideas an unfamiliar piece of English is able to awake in the mind of an average native, who has received an "English Education," and enable us to estimate the value to him of this new instrument of thought, which he has been spending years of laborious effort to acquire. Of the large number of candidates who failed, the majority owed their failure to their deficiency in English.

It would be absurd to pretend that all that is unsound, in the condition of the schools, can be cured by a single remedial measure; but because it is better to keep in view one object at a time, the most effective remedy for the present state of things is—the immediate establishment of an efficient training school for Teachers.

From the reports upon schools we select the following:—

MULLAITTION MIXED SCHOOLS.—The school building has been thoroughly repaired, within the last month, and is now in very good order. The supply of furniture is limited to one desk, two benches, and a (black) board, out of which all "blackness" has long been worn. There are maps of the World, Ceylon, and Canaan. The Schoolmaster was sick with fever, and had been absent eight days. The Doctor of the station had been taking his place in the school. The reading of the 1st and 2nd classes was fair, except in the matter of pronunciation: their stock of grammatical knowledge was very meagre. The writing, as is often the case, had been left to take care of itself; there were no copy-slips, and the children either wrote from printed books, or in some cases, framed sentences for themselves, some of which are curious enough, e. g.:—"Banishment is like a change of air," "Defend your claim to the very last," "Fornication is a bad habit." The first class were fairly acquainted with the map of the World.

KOLLUPITIYA BOYS SCHOOL.—The attendance in this school has been very bad. The school exhibits—in an extreme degree—all the worst characteristics of untrained workmanship. The furniture was filthy, the children noisy and unaccustomed to maintain the least semblance of order, the floors were covered with spittle and parched gram, and the teaching was—such as might be expected. The Head Master is a highly respectable, studious man, but he knows more of Sanscrit than he does of English; and has no aptitude for teaching children, however he might succeed as a pundit for grown up persons; the Assistant has more than all the defects, and less than more of the recommendations of his superior. The copy-writing which was pretty good in the first class, was disgracefully bad in the second. The only subject in which I saw anything like decent proficiency was the Arithmetic, which was fair. A striking example, of what is called—*teaching*, in schools of this kind occured during my visit. I found a class of 33 taking a "lesson" in the "Geography of Ceylon." I studied it. It was simply as follows:—each boy repeated by rote the following passage, forming the whole lesson for the day.—"The value of Ceylon produce, exported during the year 1860, was about £2,000,000. The value of the principal articles, in round numbers, was as follows:—Coffee £1,650,000.: Cinnamon £34,000: Plumbago £24,000." The mere repeating of this would take about three-quarters of an hour. After this, I was told, they translated it. I called upon the first boy to do this, but he could not make a commencement; and had not the faintest idea of the meaning of "produce," "exported," "principal articles," "round numbers." And in this way, if any child lived long enough, he would go through the whole book, learning, at intervals of a day or two, a few lines of unintelligible words, without the smallest suspicion ever arising, on his part or that of his teacher, that he was not rapidly mastering the geography of his country.

England.—Report of the Committee of the Privy Council of Education for 1866.—Only the more important results derived from inspectors' reports, &c., were submitted by the Committee in consequence of some of the higher officials not having been in office during the whole year.

In 1866, the number of schools or departments of schools was increased by 636, and the number of children by 41,549.

The increase of 1866 was less than that of the previous year, the failure to maintain an increase corresponding to that of 1865 was partially accounted for by the fact that managers of schools were permitted to hold examinations of evening scholars without official inspection: the commercial distress of 1866 also tended to diminish the attendance.

The number of schools inspected (1866)........................	13,586
Number of children present at inspection.....................	1,287,604
Annual average number attending.............................	1,082,055

Teachers:—Number of	Certificated	Teachers.................	11,871
„	Assistant	„	1,040
„	Pupil	„	10,955

The report showed a reduction in the number of Pupil-Teachers, mainly attributable to removals during term of apprenticeship (caused by the temptation of higher wages) to other employments. In order to induce pupil-teachers to remain, new grants were provided in elementary schools for pupil-teachers admitted into any normal school under inspection from candidates placed by examination in the first or second class.

New grants were offered to the same elementary schools for every male pupil-teacher, who, after admittance into any normal school under inspection should, at the end of first year's residence, be placed in the first or second class.

It was anticipated that both teachers and pupil-teachers would be stimulated to further exertion in applying themselves more vigorously to study through the agency of these grants. The report showed a falling off in the number of masters, while the supply of mistresses was adequate to meet all demands. The report went on to say that mistresses were cheaper than masters, that in schools not having a higher attendance than 64 they might be advantageously employed, and were thus the means of giving greater facilities for the extension of aid to *poor* and remote parishes, but that the schools taught by mistresses were inferior to those conducted by masters.

Examination of Teachers.—Of the 1,486 teachers examined from 1862 to 1866, 1,093 passed successfully, viz.:—

Masters examined...	781	Passed...	572	73.2 per cent.
Mistresses „	705	„ ...	521	73.9 „

Salaries.—In 6,042 schools the average salaries was £87 3s. In 3,654 schools the teachers had houses rent-free. The report considered certificated masters as the keystone of the system, and stated that every precaution was taken in ascertaining how that body was composed and increased.

Inspection.—The revised code was considered to answer all the objects of its authors, more by compelling teachers to attend to their scholars generally, than principally to the most clever or regular.

The report continued to show that instruction under the present system was apt to be more mechanical than under the former regulations, in the time of which, schools as a whole bore a more intellectual aspect. In order that the intellectual *tone* might still be promoted, the Council made an additional grant to depend upon the following condition, (among others,) viz.:—The time-tables of the school should provide for one or more specific subjects of secular instruction beyond that required in order to pass for a grant: the inspector should name the specific subject, and should state that at least one-fifth of the average number of scholars had passed a satisfactory examination therein.

According to inspectors' reports, the progress of education was retarded by circumstances outside the school rather than by faults in it. The age at which scholars left and the amount of actual attendance were influenced by causes over which managers or teachers had no control. The rate of progress varied in different parts of the country.

Of the day scholars above six years of age presented individually for examination, the following are the per centages of those who passed under the standards :—

		Reading.	Writing.	Arithmetic.
1st Standard.	England	85.25	89.86	80.26
	Scotland	92.81	86.32	77.18
2nd Standard.	England	87.22	94.78	72.59
	Scotland	93.98	94.47	77.55
3rd Standard.	England	91.23	80.75	75.07
	Scotland	94.88	82.54	80.71
4th Standard.	England	93.4	73.56	66.93
	Scotland	95.81	75.52	76.4
5th Standard.	England	94.09	81.87	73.15
	Scotland	97.04	86.47	84.04
6th Standard.	England	95.09	87.35	74.42
	Scotland	96.01	87.97	84.96

The management of the schools was not always efficient, and was left to rest too much on the clergy. The inspection of schools conducted by uncertificated teachers justified the inspectors in arriving at the conclusion that schools conducted by certificated teachers were superior.

The general results of individual examinations showed rather a backward state of instruction. Arithmetic continued to be the subject in which the least success was obtained ; schools conducted by mistresses contributed more than their proportionate share of failures in this subject.

The inspectors dwelt with great force on the importance of mental arithmetic as a subject which was likely to be more generally useful in daily life than almost any other ; and they expressed a desire that students in training schools should make their calculations with rapidity and accuracy, so as to secure really good teaching in this important subject.

The report concluded by adverting to the fact that managers were apt to exercise little care in verifying the testimonials and references of teachers whom they engage. Whenever notice was sent to the Committee by the managers that a teacher had left in disgrace, a note was made against his name not to recognise him until his new employers had been referred to those who complained of him, and had expressed themselves afterwards satisfied to engage him.

France: the Great Exhibition.—In our previous number, there appeared a digest of the report by the Rev. Canon Norris upon the exhibition of articles used in primary schools. We now present extracts from the report of the Rev. M. Mitchell, one of Her Majesty's Inspectors, upon libraries and apparatus used in the instruction of adults. (Class 90.)

Mr. Mitchell remarks :—" In reporting on the special objects exhibited in class 90 of the Paris Exposition considerable difficulties are experienced, as in reality the principal subjects of the class are not such as come under class exhibits. Libraries and material for the instruction of adults, whether in the family, the workshop, or societies, differ in no respect from the libraries of ordinary life, or the materials of ordinary school teaching. Every adult, who is ignorant, must be taught as an ignorant child is taught, and with the same material, and by the same processes. Every educated adult of the working classes will make use of the same books as other educated people, either for the pursuit of such special branch of knowledge he may require, for general education or for pleasure. There is, therefore, no special peculiarity for working class education. This report, then, will be confined mostly to relations on the progress of education amongst the working class ; the statistics of the several countries that have exhibited, so far as I have been able to secure them ; reports on the societies for mutual education of each

State, the progress that has been made, the establishments formed, and in some cases of artistic production, the results obtained. To the English world I hope to afford much interesting information of real utility. I shall show what other nations are actually doing, by what means they propose success, what are the actual results, why some people succeed in a certain progress, why others are kept back, either retrograding, or not making those advancements which the age and general spirit of the time require.

It is especially important that England should address itself to this knowledge, as an opinion prevails that the last ten years have not developed so much artistic and mechanical power in our manufactures as has been the case amongst other nations. There is a very deep feeling in the minds of many of the jurors of classes that the education given in other countries, specially adapted to manufacturing life, is very much more extensive and very much more real and suitable than is to be obtained amongst ourselves, and that it would be well for us to examine what is the best in other countries, that we may adopt their excellencies and remedy our own defects.

In such examinations jealousy on either side should be carefully avoided; and if we, comparing ourselves only with ourselves, are not always wise, yet we should remember that a depreciation of English art and education from mere inspection of the Paris Exposition may lead to very unjust conclusions. The intelligence of a country is not altogether best displayed in exhibitions. Certain excellent qualities, no doubt, are developed; certain arts and manufactures; certain qualifications and teachings; but the spirit and power of a nation, the development of its mental activity, its force, and strength, are best shown in the energy of its people, ramifying into all parts of the globe; in its extensive and numerous factories, in its exports and imports, in the admiration of other States for its institutions, in its power of self-government and control, by the conduct of the people when in masses, and by the numerous daily and weekly journals supplied to an ever-increasing intellectual population such as no other State can show. These real results of education are worth a thousandfold more than all the copybooks or artistic drawings in the world. These evidence a people by no means uninstructed in the higher and more elevating moral and civil duties of citizenship; and that country cannot be said to be indifferently taught whose people, for the most part, have inwardly grafted within them the idea that respect for law and self-control in the subject are of more consequence to a State than power in the prince or ruler.

Still, there is much yet to be done before we ought to rest contented. A work has been commenced, progress has been made, the nobler branches of education, as a rule, have been acquired—the higher parts of the law. Why should the mint and cummin be neglected? And if our trade suffers from the want of art-education, as is generally thought by those that ought to think—i.e., people who really understand the matter—it will be surely wise not to blind ourselves to the fact, but to take all possible means to remove the impediment.

The report on class 90 is necessarily very imperfect; circumstances rendered it impossible to complete it satisfactorily. There were great difficulties in many cases in discovering the exhibits and in finding the proper persons to display and explain their merits; and thus many valuable objects have been, perhaps, unfortunately omitted. Our report relates also to little except the expositions of the chief European countries. The Asiatic and African contributions are not numerous, nor those of America; while the languages of Turkey and Greece preclude the ordinary visitor from deriving any other pleasure than that of curiosity to see the productions of each country. I shall take the exhibition in its order of place in the building, beginning with France and ending with Great Britain.

It will be found that considerable similarity of motive actuates all the authorities and all branches of society among Continental nations. They all use one word "progress," they all endeavour to extend education amongst the people, to all its members, and to improve that education in all its forms and subjects; they are not content with the minimum, they demand and enforce the maximum; they suffer no class jealousies to interfere; they believe in education, and they confirm their belief by the testimony of its good results—of the moral as well as intellectual advancement of their several peoples.

FRANCE.—The French Education Department of the Exposition counts 500 exposants; in 1862 it counted 180; and on this occasion twice as many sought admission in vain. This branch of the Exhibition establishes two grand facts: 1, Great progress in the last five years; and, 2, Much greater to be expected from present institutions for the future.

While the buildings and materials of instruction have increased and improved, the instruction itself has not remained stationary. Its subjects have been enlarged by making instruction compulsory in several branches to this date only recommended, and by the better methods of teaching now introduced. Instruction is given in agriculture, and horticulture, and gymnastics; but more particularly has it advanced in respect to adult education—only lately offered to those who either by their own or parents' fault or exigencies have grown up in ignorance; and in its higher branches also to those desirous further to improve their minds. The recent introduction of living languages, of commercial geography, of laws relative to workmen, and of industrial economy, will give an immense impetus to education all through the country.

In respect to art schools, the workmen comprehend no less than the masters that the destiny of one part at least of their occupation depends upon the superiority of their taste, and it is the strength of this shared opinion of workman and employer that has compelled the foundation of technical schools to supply the inefficiency of apprenticeship.

The object of this technical teaching is to prepare for a certain profession or trade, &c. It is, in fact, an apprenticeship. Education, however, is little without books; hence the foundation of libraries. There are 8000 in France, lending 500,000 volumes a year, attached to communal schools. These are supported by the State, and aided by the exertions of individual societies.

Many publishers have commenced issuing very cheap, excellent libraries adapted to this use. They include most of the classical works of their own language, together with many translations from Greek, German, Roman, and English authors.

A very important step is in progress in France, through the influence and position of M. Duruy, the Minister of Public Instruction, to whom France already owes so much. He found that the French language was unknown in many districts of France, whose inhabitants speak only a patois entirely their own. He now requires that French shall be taught in all the schools. Again, he has considered that France is bordered by several nations, and he is taking steps to have the teaching of the neighbouring language in each communal school. Thus the east and north learn German; the south, Italian and Arabic; the west, Spanish; and the north-west and seacoasts, English. It is a great satisfaction that France possesses so enlightened a Minister, and to know that he will not be thwarted by the feeling either of the ruler or the people in developing his noble plans; for France has begun to believe in free trade, and to act on that belief. Free trade is commercial rivalry and contest, and the crown of victory will be gained by that people whose industrials are the most intelligent and laborious.

(To be continued.)

NOTICES OF BOOKS, &c.

TIME-TABLES, QUARTERLY PROGRAMMES, LESSON REGISTER, AND FEE BOOKS. Printed and published by J. J. Moore, Bookseller and Stationer, George Street, Sydney.

To construct a neat and satisfactory Time-table or Programme requires that it be clearly and evenly ruled, two things which the teacher cannot well do on account of other duties to which he must attend. Teachers will find these things carried out for them in the best style possible, printed on good paper, at a very low rate, and according to the forms required by the Council of Education. Teachers who wish to save time, and have neat Time-tables, Programmes, Registers of Lessons and Fee Books, would do well to purchase those above-mentioned.

INTRODUCTORY TEXT BOOK OF ENGLISH COMPOSITION, BY W. S. DALGLEISH, M.A.—If young teachers require a text-book for their own guidance in acquiring a good style, or if their more experienced brethren need a methodically arranged collection of exercises for advanced pupils, they will find the desideratum in Mr. Dalgleish's little manual. The object of the work is thus stated by Mr. Dalgleish:—"This Book is intended as a sequel to the ordinary Text Books on English Grammar and Analysis. It takes up the subject where Analysis leaves it; and as its method is synthetical throughout, its processes from the natural and necessary complement to those of Analysis." The work consists of two parts which deal with the Structure of Sentences and the Structure of Paragraphs respectively. Under the former are comprised directions and exercises upon what the author terms the *expansion, contraction,* and *enlargement* of sentences, upon the transposition and substitution of words, and upon punctuation. The second part includes a discussion of the forms of composition designated *narration, description,* and *exposition,* and is terminated by a chapter on précis writing. While differing from Mr. Dalgleish on some minor details, we consider his work eminently calculated to assist teachers of both the classes we have mentioned. In addition to its practical utility as a Manual of Composition, it may claim the further merit of giving a series of rules and directions based upon sound and intelligible principles. From this book the practical application of the analysis of sentences may be fully learned, and the student will be enabled to view that subject in a more thorough and comprehensive manner. We have therefore no hesitation in recommending it to our readers as a cheap and correct manual of composition. We think it hardly probable that teachers will go to a book on grammar for their theology, but in case any of our readers should be shocked, it is well to mention that Mr. Dalgleish has culled a few sentences, as examples, from various writers, that may possibly not be regarded as orthodox.

PROGRAMMES OF LESSONS.—We conceive that a teacher accustomed to carry on the work of his school without any pre-arranged plan ofprocedure, having a blank form of Programme before him, would experience some difficulty in completing it. This, we venture to think, forms sufficient apology for a few words on a matter with which very many teachers must be familiar.

The Programme of Lessons maps out as it were three months' work for a class; it compels the Teacher to properly systematise his teaching beforehand, and thereby ensures regular and methodical procedure—an indispensable means to satisfactory results. It presents to the Teacher a certain point to be attained in a given time—in itself an incentive to energy, and a source of satisfaction and pleasure on the accomplishment of the work proposed.

It differs from the "Standard of Proficiency" in being more specific, the matter being divided into weekly instead of quarterly portions. The Register of Lessons again is still more specific, being a record of each day's lessons; it shows, moreover, to what degree the teacher has conformed with the course proposed by himself in his Programme.

In the construction of Programmes the Teacher must be guided by the "Standard of Proficiency;" he should in fact take the matter prescribed in that document for the given class during the given quarter of enrolment, and divide it into thirteen successive portions corresponding with the weeks in the quarter.

While it is to be remembered that higher results than those indicated in the Standard of Proficiency are to be obtained if practicable, yet it must be admitted that in the majority of instances the work proposed in a Programme is considerably in excess of that actually accomplished during the quarter. As a rule Programmes should be constructed with a view to the advance of the more backward of the class.

Certain contingencies as wet weather, incidental holidays, and the prevalence of epidemics will at times interfere with and absolutely prevent faithful adherence to the Programme. In such cases the Teacher should simply resume the work which he has been compelled to forego, as soon as the cause of interference is removed. The regular succession of the various stages of the instruction will thus be uninterrupted, and the work left un-finished will be that prescribed for the end of the quarter, and can occupy the former part of the ensuing quarter. A remark in the Lesson Register would satisfactorily account for so wide a divergence from the prescribed course.

From the few remarks made it will be perceived that in addition to being a statement of the matter of instruction, the Programme of Lessons is, to no inconsiderable degree, an indication of method. It will further be seen that a regular steady proceedure by successive easily graduated, and closely connected steps is the main principle to be observed in the construction of a Programme.

At the end of the present number we give a completed Programme for a Second Class during the first quarter of enrolment.

ORIGINAL CORRESPONDENCE.

(Writers of all communications intended for publication in this Journal must furnish us with their names, not necessarily for publication, but as a guarantee for good faith and correctness. The Conductors of the Journal are not responsible for opinions expressed by correspondents.

To the Editor of the Australian Journal of Education.

Sydney, January 15, 1868.

Sir,—At the Annual Examinations teachers often have a question put to them in writing something like the following:—"Criticise the First Lesson Book." This is a very difficult matter to do for those who have received no training, and several teachers as well as myself would be greatly benefited if you, or some other able hand, who understands what is required, would criticise one of the books used in the Public Schools.

I have the honor to be, Sir,
Yours obediently,
Excelsior.

QUESTIONS FOR SOLUTION.

A ball, A, weighing 32 lbs., and moving with a velocity of 26 feet in a second, follows another ball, B, the weight of which is unknown, but which moves at the rate of 12 feet a second; the common velocity after impact is found to be 20 feet a second; it is required from this to find the weight of the ball B. Weight.

Two strings of the same material and thickness, one 4 feet and the other 16 feet in length form successive monochords: the first is stretched by a weight of 12 lbs.: with what weight must the long one be stretched so that both strings shall sound the same note? Sonor.

Bought 37 pairs of stockings and gloves, the stockings at 1s. 3½d. per pair, the gloves at 2s. 9½d. per pair; I paid altogether £3 4s. 3½d. How many pairs of stockings, and how many of gloves did I buy?—To be worked by arithmetic. Q.

When the corner of a leaf of a book is twice turned down, so that the creases are parallel, and the triangular fold of the same breadth as the other, shew that the space included in the second fold is three times that of the first.

Bought 50 yards of calico for £2 2s., and sold the same so as to gain as much as was the selling price of 2 yards. What price per yard was it sold at?

Trajan's Bridge, over the Danube, is said to have had 20 piers to support the arches, every pier was 60 feet thick, and they were 170 feet asunder. What was the width of the river in that place? Quæro.

NOTICES TO CORRESPONDENTS.

Various communications are omitted from this issue of the Journal from want of space. We take this opportunity to urge upon our subscribers the benefit they would themselves derive from writing for the Journal. Even if their communications are not printed they will have practised themselves in composition, and they will have afforded us opportunities of learning much respecting the views and sentiments of the teaching body. As a rule, we would advise contributors to begin with a simple subject, *i.e.*, one involving but a single issue, selecting others of a more complicated nature after some experience had been gained.

Literaphilus.—Portion of your letter has been printed. Some of your remarks seem to us to be liable to misconstruction.

Pupil-Teacher.—We shall endeavour to find a place for your Essay in our next issue.

Scrubber.—Your lines, though not without spirit, are of too erotic a cast for our pages.

We have received numerous solutions to the questions proposed in our January number. All who attempted Mr. Hewison's geometrical theorem appear to have noticed the accidental omission of the words "at right angles" after the word "respectively." The error in printing Question 4 was also detected.

The difficulty in obtaining the wood-cut necessary for exhibiting the figure required in the demonstration, has prevented us from printing one of the solutions in extenso. That by Mr. A. C. Griffin appears to be the most satisfactory. In dealing with geometrical reasoning, our correspondents display much looseness of expression, which tells unfavourably upon the conclusiveness of their demonstrations.

A. Sutherland, J. Buckley, a Parramatta Correspondent, whose *nom de plume* we cannot decipher, and J. J. W. have attempted the geometrical theorem. The last mentioned used algebraic signs and reasoning, and, even if correct in his method, would not be entitled to the merit of having properly satisfied the conditions.

Question 1.—Answered by E. Hewison, A. C. Griffin, J. S., J. J. W., A. A., Keira, Mead, Scrubber, and A. Sutherland.

The following is J. S.'s solution:—

Of the joint number, 184, the given differences are, respectively, 15 and 9 = 24. It is plain that the totals of sexes in each school are in the ratios of their differences, or, as 15 : 9, or as the fractions $\frac{5}{8}$ and $\frac{3}{8}$, and these are in the same ratio to the joint sum 184. Hence, as $\frac{5}{8}$ of 184 = 115, and $\frac{3}{8}$ of it = 69, these are the total numbers of children in each school, and they are as $\frac{5}{8}$ to $\frac{3}{8}$. We have now to find the number of boys in each. The question tells us there are 15 more girls than boys in S. $\therefore \dfrac{115-15}{2} = 50$ boys in S. In T, there are 9 more boys than girls, $\therefore \dfrac{69+9}{2} = 39$ boys in T.

Question 2.—By E. Hewison.

Question 3.—By Scrubber and A. A.

Question 4.—By Keira, A. Sutherland, A. A., and Mead.

Question 5.—By Keira, A. A., Mead, and Scrubber.

Question 6.—By A. Sutherland and J. S. We give J. S.'s answer.

The history and etymology of several of the words instanced by "Alpha" are very obscure—matters of dispute even among philologists. The annexed is the best elucidation of their meaning that I am able to supply.

London is a Celtic word, derived from *lhong*—ships, and *dun* or *thun*, the Anglo-Saxon *don*—town. Its position, so favourable for commerce, doubtless suggested the name.

Asia.—I can find nothing satisfactory as to the meaning of this word, but would suggest that its most probable signification is, *a division eastwards*, as, according to an Armenian tradition, it was one of the divisions made by Noah of the habitable globe, and was assigned by him to Shem. The tradition alluded to describes it as "the region of the tawny," (?) which its peculiar surface and *eastward* position seem to me to justify. The root of the word is doubtless of Sanscrit origin.

Brazil.—Probably from *braza*, Portugese for burning coal. Brazil wood is of a red colour, and this suggested the name.

Japan.—The country of *sunrising*, or *east*, in the Chinese language. This etymology, however, is rather doubtful.

Islos de los Galapagos.—Galapagos is the Spanish word for land-tortoise, and when these islands were discovered they abounded, as they do now, in turtles of an enormous size. The Spaniards who first visited these islands, gave them their present name.

Murrumbidgee is an aboriginal word, meaning "beautiful river." Merumbidgee is the correct spelling.

Lachlan is the name given to a district of New South Wales, lying between the Murrumbidgee and Lachlan rivers, so called from that of its discoverer. The etymology of the word I cannot give, but presume it is Celtic. [The Lachlan River was so named by the discoverer, Mr. Oxley, in honor of Lachlan Macquarie, Esq., Governor of New South Wales from 1809 to 1821.—Eds.]

Hunter takes its name from Captain Hunter, who arrived in Australia as governor in 1795.

Lichfield.—Probably from Anglo-Saxon *lich*—a *morass*, also a *dead body*. Several battles were fought on this "field."

Missouri—mud river, in the American language, and so-named from its muddy waters.

Groote Eylandt.—Dutch, for *great* or *big island.*

Europe.—According to some authorities, "large-eyed," from the Greek *eurus*—large (or wide), and *ops*—eye. It probably obtained its name from Eurōpa, the daughter of Agenor. This word (Europe) has been much in dispute.

Question 7.—By J. S. and Literaphilus. From Literaphilus' paper we extract the following:—

In reply to J. H., I beg to propose the following analysis of the passage given by him as sufficient for a practical purpose. The absolute construction expresses a *state*, and, when analysed, should, as it appears to me, stand as follows:—

Subject.	*Predicate.*	*Extension and Kind.*
The steed	was stolen	the door being open (apparent cause.)

Question 8.—By J. K. and Literaphilus. We give Literaphilus' analysis of this very crabbed passage.

GENERAL ANALYSIS.

A I'll prove ....Principal clause.

b (That) the word is, ...Substantival to "prove" in *A.*

c That I have made my theme,...Adjectival to noun "word."

d That that may be doubled without blame,......Substantival, in apposition with the noun "word," or object of "prove."

e And that that that thus doubled I may use, Substantival, object of "prove."

f And that that "that" may be correct, Substantival, object of "prove."

g That critics may abuse ....Adjectival to noun "that" in *f.*

A Complex Sentence.

*A*1 Further the Dons to bother five thats may closely follow one another, ...Principal clause.

*B*1 For be it known, ...Co-ordinate with *A* 1 (reason.)

c 1 That we may safely write, Substantival to "be known" in *B*1.

d 1 Or (that we may safely) say, ditto ditto

e 1 That that "that" was right, ... Substantival to write or say.

f 1 That that man writ, ...Adjectival to noun "that" in *e*1.

g 1 Nay even that that "that" the grammar's rule has hallowed,
Substantival to "be known" in *B* 1.
h 1 That that that has followed through six repeats,
Adjectival to noun "that" in *g* 1.
i 1 And that that *that* repeated seven times is right,
Substantival to "be known" in *B* 1.
j 1 That "that" that that began, Adjectival to noun *that* in *i* 1.
K 1 Deny 't.....................................Principal clause to *l* 1.
l 1 Who can...........Adjectival to "man" understood in *K* 1.

A Compound Sentence.

DETAILED ANALYSIS.

No. of Clause.	Connectives.	LOGICAL SUBJECT.		LOGICAL PREDICATE.			
		Grammatical.		Grammatical.	Completion.		Extension.
		Enlargement.	Subject.	Predicate.	Attribute.	Object.	And kind of.
A.			I	will prove			
b.	that		the word	is			
c.			I	have made		that	my theme (remote object)
d.	that		that	may be doubled			without blame (manner)
e.	and that		I	may use	that	that	thus doubled (manner)
f.	and that	that	"that"	may be correct			
g.			critics	may abuse		that	
A 1.		Five	thats	may follow		one another	closely (manner) further the Dons to bother (purpose)
B 1.	For		(thou)	(let) be known		it	
c 1.	That		we	may write			safely (manner)
d 1.	Or (that)		(we)	(may) say			(safely) (manner)
e 1.	That	that	that	was right			
f 1.		that	man	writ		that	
g 1.	Nay even that	that	that	has hallowed	the grammar's	rule	
h 1.		that	that	has followed		that	through six repeats (repetition)
i 1.	And that	that repeated seven times	that	is right			
j 1.	That	that	that	began		that	
K 1.			(thou)	deny		it	
l 1.			who	can			

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PROGRAMME OF LESSONS for the SECOND Class, during the First Quarter of Enrolment, for the Quarter ending 28th day of March, 1868, constructed to accord with the provisions of the Standard of Proficiency.

TIME.	READING.	WRITING.	ARITHMETIC.	GRAMMAR.	GEOGRAPHY.	OBJECT LESSON.	OTHER SUBJECTS.		
							DRAWING.	SINGING.	DRILL.
1st Week.				CHRISTMAS VACATION.					
2nd.	Second Book I.N.B., Section I. Less. 1, 2, 3 & 4.	I, T, F. from	Simpl Addn. to 4 placs. Notate to 4 places. *Tables*, Three times. *Mental*, Easy Addition.	Names of things.	Plan of * Schoolroom floor.	Cow & Pig. Compare, Contrast, and give illustrative anecdotes.	Posture of body, manner of holding pencil.	Exercises on Scale and 'Strong Tones,' from Modulator.	Military
3rd.	Less. 5, 6, 7 & 8.	S & L, copies	Simple Addition. Notate to 4 pls. inclusv *Tables* to 4 times 7. *Mental*, Addition.	Exercise on the names of things, distinguish them in sentence, and introduce the term "*Noun.*"	Walls of		Perpendicular	Induce by examples the fact of tones being various lengths, and the consequent	evolutions
4th.	Less. 9, 10, 11 & 12.	P, B, short words	Introduce Subtraction Notate to 5 places. *Tables* to 4 times 12. *Mental* Addition and easy Subtraction.	Give definition of Noun and numerous exercises.	Schoolroom.	Glass & Iron. Compare, Contrast, and describe mode of manufacture in each case.	line.	necessity of a unit of time. Pulse. Notation of pulses.	of facing.
5th.	Section II. Less. 1, 2, & 3.	R, D, in text hand,	Explain *borrowing* in Subtraction. *Tables*, 3 & 4 times. *Mental*, Addn. & Subtn *Notate* thousands.	As last week with numerous exercises in distinguishing Nouns by the application of the definition.	Playground with		Horizontal	Notation of tune by initial letters. Illustrate by examples stress or force of voice Give the term 'accent.'	Mark time.
6th.	Less. 4 & 5.	A, M, N, in books.	Same as last week, with numerous exercises.	Words telling the kind of Noun. Continue to exercise on the Noun.	Schoolhouse and out houses.	Sheep & Goat. Compare, Contrast, and give illustrative anecdotes.	line.	Instance the regular recurrence of Accent. Notation of accent.	Marching
7th.	Less. 6, 7 & 8.	U, V, W, from	Simple Subtraction. Notate thousands. *Tables*, 5 times. *Mental*, Exercises on foregoing wth doublng	Introduce the term "*Adjective*," and give exercises. Continue the Noun.	School premises with place immediately adjoining.		Combinations of above into simple figures.	Measure and bar.	ect., with
8th.	Less. 9, 10 & 11.	O, C, copy and	Examine and recapitulate.	Definition of Adjective, with more numerous exercises. Application of the definition.	Examine and Recapitulate.	Pin & Nail. Compare, Contrast, and describe mode of manufacture in each case.	Oblique line	Tones of more than one pulse in length. Mark of continuation.	all other
9th.	Less. 12, 13 & 14.	E, G, dictation of	Simple Subtraction as 736901—29904. *Tables* to 6 times 7. *Mental*, foregoing and halving.	Examine and Recapitulate.	North and its position on Map. Partsof school premises running northwards.		sloping to the left.	Two pulse measure. Exercises.	exercises
10th.	Less. 15 & 16.	Q, X, reading	Same as last week with numerous exercises.	Words pointing out Nouns. Introduce term *Article* Continue Noun and Article.	South and its position on map. Parts of school premises running northwards.	Horse & Dog. Compare, Contrast, and give illustrative anecdotes.	Oblique line	Numerous	conducive to
11th.	Less. 17, 18 & 19.	H, K, lessons	Difficult simple Subtraction. *Tables* to 6 times 12. *Mental*, miscellaneous exercises on foregoing.	Definition on Article. Numerous exercises in distinguishing the Article. Continue Noun&Adj.	East and its position on map. Part of school premises running eastwards.		sloping to the right.	illustrative and	good order,
12th.	Less. 20 & 21.	Y, Z, on	Difficult Simple Subtraction. Notate to 6 pls. inclu. *Tables* to 6 tms. inclu. *Mental*, as last week.	Numerous exercises on Noun, Adjective, and Article.	West and its position on map. Part of school premises running westwards.	Recapitulate Animals.	Combinations of above	recapitulatory	management,
13th.	Less. 22.	slates.	Examine and Recapitulate.	Examine and Recapitulate.	Examine and Recapitulate.	Recapitulate common things.	into simple figures.	exercises. N.B.—The above to be interspersed with suitable melodies by ear.	and economy of time.

NOTE—This Programme should be completed in the first week of the Quarter. Drawn on the sixthday of January. 1868. Examined ______________________ Teacher.

* Having special reference to relative position, direction, siz, etc., and their representation on a reduced scale,

THE

Australian Journal of Education.

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ON THE STUDY OF LATIN.

It has of late become the fashion with a certain class of educationists to decry the study of Latin, in common with other ancient tongues, and to represent it as of comparatively small utility though requiring a large expenditure of time that could more profitably be devoted to other subjects. Whatever force there may be in this view as a general proposition, little weight can be attached to it as applied to Teachers. In every aspect, whether as a discipline of the mind, a branch of their professional work, or as a step to the further acquisition of knowledge, Latin is more needed by Teachers and is more likely to be useful to them than to any other class of the community. If it were necessary, reasons in favour of the study of Latin by Teachers could be adduced in such variety as to meet the case of every individual among our readers who had not previously gained some knowledge of the language. A few of these arguments may be mentioned.

In the first place, the Council of Education in New South Wales, and the Boards of Education in neighbouring colonies, require a knowledge of Latin as a condition to the award of the higher class certificates and the payment of the higher rates of salary. Further, the superior schools, the mastership of which would confer both position and emolument, cannot be held by Teachers unacquainted with Latin, as this subject forms part of the ordinary course of instruction for advanced classes. The expenditure of time and labour in studying it will consequently bring a direct pecuniary recompense and will help to gain a necessary passport to the higher ranks of the profession.

As a mental discipline, Latin seems to be peculiarly adapted to the needs of Teachers of primary schools. Long association with inferior or immature minds and the continual, if not exclusive, occupation of the thoughts on subjects not requiring vigorous exercise of the intellect, tend to reduce Teachers to a mental condition unfavourable to progress. Hence, in dealing with many of the problems of practical life, they are sometimes found to be so deficient, as to expose themselves to unfavourable remark, from persons far inferior to them in attainments. Any subject therefore that requires the energetic action of the mind, that presents difficulties to be surmounted only by patient labour and perseverance, and that tasks the mental faculties to the utmost, would be a means of discipline of the highest value. Latin fulfils these conditions in an eminent degree, and the Teacher who succeeds in fairly mastering the language would doubtless admit that the intellectual training to which he was subjected during the process of acquiring his knowledge, has greatly augmented his mental strength and prepared him to cope with even higher branches. His skill in English composition, a matter in which Teachers generally do not rank high, would be greatly improved by his study of Latin which furnishes admirable models of style. Not that imitation is to be commended, but the Teacher's powers of thinking would be so exercised that his modes of expression could not but gain in clearness, precision, and elegance.

In recommending Teachers to devote much of their spare time to Latin, we are not unmindful of the great disadvantages under which many must labour. The want of suitable direction in their studies would probably be felt as the greatest difficulty. Many Teachers, we are aware, would gladly commence the study of Latin at once, if they only knew how properly to set about the task. The selection of appropriate books is, of course, involved in this question. Another obstacle in the way of acquiring a knowledge of Latin is the absence of qualified instructors. This remark does not apply to Sydney where instruction of the kind required can readily be obtained on very moderate terms. But in the country, Teachers have probably found that assistance in their studies is looked for in vain, and their case is consequently deserving of special consideration.

We have not glanced at the difficulties of Teachers in this matter without some hope that a remedy will be provided. We trust shortly to be able to publish directions as to the course of study and the proper books to be used. The same eminent scholar who will supply these directions, will then probably announce that he has completed arrangements for receiving periodically and revising the exercises of Teachers who may be unable to obtain instruction from competent tutors.

ANALYSIS OF SENTENCES.

(*Continued from No.* 2.)

57. Before concluding our observations upon the structure of the Simple Sentence, it may not be out of place to advert to several forms in which we have not yet exhibited it.

58. In (par. 3.) we have said that the Simple Sentence *usually* assumes the form of a statement or affirmation. Such, however, is not *always* strictly the case—as, for example, under the following circumstances:—

I. That in which a question is asked, as—*Are you cold?*

II. That in which a wish is expressed, as—*May the new year be prosperous.*

III. That in which a command is given, as—*Pass onward.*

IV. That which contains an exclamation, as—*How bright the tulips are.*

To the first of these, the name of *interrogative sentence* has been given.

The second has been called the *optative* form.

The third may be distinguished as the *imperative.*

The fourth may be styled the *exclamatory.*

59. There are certain peculiarities connected with the analysis of some of these forms of expression into which it is not our intention at this time to enter. It will be sufficient however to say that, in the case of simple utterances, such as we have instanced, the same conditions of analysis will apply as have been recommended for the other, and more direct sentences, subject to the following reservation.

60. When the sentence to be analysed is *interrogative*, a mark of interrogation (?) should be placed after the Predicate, thus—

"Canst thou minister to a mind diseased?"

Subject.	*Predicate.*	*Extension of Predicate.*
Thou	Canst minister?	to a mind diseased.

61. We subjoin a Form for the Analysis of Simple Sentences, giving some examples as exercises to be analysed.

a. Can the gold miner predict constant success?

b. For nearly a week, owing to a profound calm, we suffered great distress in the Tropics.

c. Cross the suspension bridge in single column.

d. The stormy petrels followed the doomed ship throughout the gale.

SUBJECT.		PREDICATE.				
Enlargement of the Subject.	Simple Subject.	Simple Predicate.	Enlargement of the Predicate.			
			Completion.		Extension.	Kind of Extension
			Object.	Attribute.		
a. The gold	miner	can predict?	success	constant		
b.	We	suffered	distress	great	for nearly a week,	Adjunct of time.
					owing to a profound calm	Adjunct of cause.
					in the tropics.	Adjunct of place.
c.	You (understood)	cross	bridge	the suspension	in single column.	Manner.
d. The stormy	petrels	followed	ship	the doomed	throughout the the gale.	Adjunct of time.

Died on the harp the closing hymn.

The sheep, before the pinching heaven, to sheltered dale and down are driven.

She retiring,
On the wide plain, with strong grasp upheaved
A rugged stone, black, ponderous, and huge.

May you win the lawsuit triumphantly.

The aged merchant travelled to Liverpool, on foot, in three days, in search of his nephew, unavailingly.

Holland is a remarkably level country, with a cold, moist climate in the north.

Denmark was very formidable to the rest of Europe, in the ninth, tenth, and eleventh centuries.

Cromwell, on the other hand, neither ashamed of his origin, nor vain of his elevation, exhibited in his demeanour, even by the admission of his enemies, the simple and natural nobleness of a great man.

Proceed to the interior without delay.

To spend the best years of a life on the sea, to be scantily supplied with bad food, to encounter violent storms, to pass nights of terror, and to be finally cast upon a deserted shore, is often the lot of the hapless mariner.

During winter, the Zuyder Zee and the canals are generally frozen over.

To protect them from the cold, the natives usually wear sheepskin clothing with the wool turned towards the body, and outer garments above these with the hairy side out.

Italy is one of the finest countries of Europe.

How beautiful are the Mediterranean skies.

Their extensive and beautiful territory produces, in great abundance, almost every kind of fruit or grain of temperate climates.

In Europe the British Empire borders at once towards the North upon Denmark, upon Germany, upon Holland, upon Belgium and upon France.

Is he a faithful steward?

Can you perform the work properly in the prescribed time?

May I come into the building openly?

May his resources never fail.

Drink them quickly.

Near the upper part of the Rhine's course, that is, in the south-west of Germany contiguous to Switzerland, is a large tract of mountainous country thickly clothed with wood—the Black Forest, or Schwarzwald.

Where is Utopia?

As much dreaded in the Persian Gulf and Erythrean Sea as in the Pacific Ocean and Indian Archipelago, the British Empire, the possessor of the finest countries of the Earth, beholds its factors reign over eighty millions of subjects.

At that time, from the banks of the Indus, to the frontiers of China, from Cape Comorin to the elevated region of Thibet, from Malabar to Coromandel, all acknowledged the sway of a Mercantile Company of a narrow street in the City of London.

Occasionally, in the desert wastes, we hear of beautiful, green, well-watered oasis, all fertile, and dotted over with palm groves, and glittering like so many emeralds.

Far as creation's ample range extends,
The scale of sensual mental power ascends.

Be not wise in thine own eyes,
Let prudence guide thee.

The Mocking Bird, a native of these wilds, gave me a most decisive proof of its powers of utterance.

To walk in the evening is pleasant, and healthy.

The stag drinking at the stream saw his image in it.

Me have ye bereaved of my children.

Knowledge to their eyes, her ample page,
Rich with the spoils of time did ne'er unfold.

Answers to the following should be written out.

Give examples of the varied forms in which Simple Sentences occur.

What are the essential parts of every sentence?

Point out the differences between a sentence, a clause, and a phrase.

Of what may the Subject consist?

In what forms do we meet with the Simple Predicate?

Under what circumstances does the Predicate require to be enlarged?

Distinguish between a Completion of the Predicate and an Extension.

When is an Object Essential?

How may the Predicate be completed?

In what forms do we find Extensions of the Predicate?

Why cannot two Finite Verbs exist in a Simple Sentence?

Describe fully the functions of the Predicate?

Construct six Sentences, each containing an Enlarged Subject.

Construct six Sentences, each containing a Completion of the Predicate.

Construct six Sentences, each containing an Extension of the Predicate.

Construct six Sentences, each containing all the parts possible in a Simple Sentence.

THE COMBINED SENTENCE.

62. The introduction of the Sentence to which we have given the name of Combined, calls for a few words of explanation. We do this the more readily, since, by some, it may be regarded as a needless innovation. This in fact is one of the points on which we dissent from the views expressed by previous writers—(*Art.* I., *No.* 1); and, after all, the name only, is new. We are not making new forms of sentence; we do not propose new modes of expression for the English Language, but are simply dealing with it as we find it existing. We therefore think it expedient to study separately those sentences, which contain more than one direct statement, but still consisting of direct

statements and nothing more. Hitherto, it has, we believe, been the usage to classify this sentence with those styled *Compound*, and to treat it in all respects as such. But this course is open to grave objections; and a little reflection will convince the reader that it is much better to separate all sentences, which contain direct statements only, from those which consist of direct and indirect statements.

63. This, we think, will be abundantly clear from even a slight consideration of the following passage, selected from the writings of Joshua Sylvester, a poet of the 16th century:—

"I quake not at the thunder's crack;
I tremble not at noise of war;
I swoon not at the news of wrack;
I shrink not at a blazing star;
I fear not loss; I hope not gain;
I envy none; I none disdain."

It will be seen that there is nothing indirect or subordinate here; nothing complex or compound. All is direct. There is no interweaving or compounding of indirect qualifying statements with the expression of the principal thought. The whole, in fact, consists of an assemblage of simple, direct statements, not formed into separate sentences, but combined into one, because of the close connection of the thoughts, which would necessarily be broken up and disintegrated by any other arrangement.

64. The Combined Sentence in its simplest form is merely a plurality of simple clauses conjoined, and generally having well defined relations towards each other. Were those sentences uncommon, their separation from others might be less necessary. Such however is not the case. They occur more or less frequently in the works of nearly all writers; and, in some instances, the greater part of an author's labour is thus presented to the public. They may very frequently be met with in the translated writings of antiquity—in the works of the earlier English Poets, and more recently in those of Scott, Byron, Coleridge, Young, Longfellow, and Macaulay.

Thus, the Pentateuch opens with a complete Simple Sentence. This is immediately followed by a Combined Sentence.

In one of the oldest writings known, we discover the Arabian Emir saying, "Behold, I go forward; but He is not, and backward, but I cannot perceive Him."

In later times, Joseph standing before the Egyptian King, says,—"It is not in me: God shall give Pharaoh an answer of peace."

Park's Negro hostesses sing,—"The winds roared; and the rain fell. The poor white man, faint and weary, came and sat under our tree. He has no mother, &c."

The Indian Chief, in his camp, thus speaks,—"The pale faces are my brothers; they are welcome to our hunting grounds: let them rest: it is peace."

In short, from the era of the earliest Literature till the present time, in the Old World and the New, from the palace of the monarch to the African wilderness, from the tents of Idumea to the wigwam of the Huron, has this form of speech been employed to give expression to the thoughts of men. It is remarkable alike for simplicity and grandeur; and when we consider that it has been made the vehicle of some of the sublimest utterances to man, we see no reason to doubt that it will continue to find favor while the English Language exists.

65. We have already stated that the *Combined Sentence* consists of direct clauses only. There must of course be at least two in order to form a Combined Sentence. The number upwards is limited only by the restrictions of good composition; but this species rarely comprehends more than six clauses; and its most effective development is found in those which do not contain more than four.

66. As examples of the simple, and of the more extended forms, we offer the following:—

I. The day came; and it proved inauspicious.

II. The day is cold, and dark, and dreary;
It rains; and the wind is never weary;
The vine still clings to the mouldering wall;
At every gust the dead leaves fall;
And the sky is dark and dreary.

[*We have considered it desirable, in order to draw attention to various methods of teaching and to evoke discussion, to afford contributors opportunities of stating their views on such points; but it should be understood that the Conductors of this Journal do not necessarily identify themselves with the opinions so expressed.*]

A SYSTEM OF TEACHING ARITHMETIC.

[*Continued from Page* 50.]

NOTATION.—As soon as a child has learned to read numbers, he ought to be taught to write them. His efforts may be feeble for some time, but as he improves in ordinary writing he will improve in forming the digits. Assuming that he has sufficient command of his pencil to set down digits intelligibly, he ought to be required to set down single digits, one under the other, also to draw on the slate after each, the number of strokes represented by such digits respectively. It is not likely that at this stage children will be able to add up numbers in the ordinary way, but by counting the strokes they will find out how many there are altogether; they should then be required to set down the number they all come to. Suppose the digits to be—3, 5, 4, 6, 8, the children would have on their slates 3= | | |, 5=| | | | |, 4= | | | |, 6= | | | | | |, 8= | | | | | | | |, this would amount to 26. He should then be required to set down 26. The probability is that some would have it 62. The teacher should now go over the same thing on the blackboard, placing the digits, with their corresponding strokes, either under each other, as the children have them on their slates, or in one line as represented here, or, what would be better still—both ways. He might rub out the digits and leave the strokes, and then count them, when he would find the same result as that obtained by the children. He will now have an opportunity of shewing the importance of correctness in *Notation*, and pointing out the difference between 26 and 62. They all say the number of strokes is twenty-six. If what has been shown in the preceding article on this subject be borne in mind, it will be readily perceived by all, that as there are only *two* tens in twenty-six, the number to be set down must be 26, and not 62; because the latter has the 6 in the place for the tens, and 2 in the place for the units, thereby making it appear as if the number came to sixty-two, which is not correct, nor is it the number intended. In the same way they should bear in mind, that the digit indicating the number of hundreds must be put in the third place, reckoning from the right hand. In order to produce correctness and facility in notation, it will be necessary to exercise the class at such numbers as 19 and 91, 51 and 15, 21 and 12, 18 and 80, 101 and 110, 30 and 13, &c. In setting down numbers, children might be permitted to begin with the unit, then the tens and then the hundreds; and also in entering sums for Addition, when the different items to be added have in them an unequal number of digits, it might be as well to commence with the units' place; but so soon as a child can readily enter digits to three places correctly, he will of his own accord prefer commencing with the digit to the left hand, in the ordinary way. Suppose the number to be set down is 467, the child should be told to reflect that 7 is the unit, he sets it down, the 6 is the number of tens, down it goes, and then the 4 for the hundreds. This plan he will soon abandon and begin with the 4, then the 6, and lastly the 7. But unless he is very clear on the matter, when he is to set down, say 75, and to place under, so as to be able to add to it 368, 14, 53, 749, &c., he will find it much the best way to enter the units' digit first, i.e., to place the 8 under the 5, the 6 under the 7, then, in the same way, the 4 under the 8, and the 1 under the 6, &c. In order to assist him in this, it would be well to direct him to enter the numbers succeeding the first on their being given out, on some other part of the slate, and copy each off, placing the unit under the units, the tens under the tens, hundreds under the hundreds, &c. But this round about way he will abandon of his own accord as he becomes expert at his work, just as a child, after he is able to walk alone, abandons the helps that were supplied him when he was first induced to use his feet.

When the numbers are larger, some such plan as this is often necessary; for, in a number containing several cyphers, there is a tendency, on the part of those not having much experience at Notation, to mistake one number for several numbers. Suppose we say, put down on your slate four hundred and ninety millions sixty-three thousand and two, there is a probability that the 2 will be treated as a separate number, but children should be taught to consider carefully the words *units*, thousands, millions, &c. Then ask how many millions? 490; then let this 490 be put in the millions period, the third from the right hand. How many thousands? 63. Then put down the 63 in the thousands period. How many units? 2. Then put the 2 in the units period. How does it stand now? 490 63 2 This number is, as it stands, only four hundred and ninety thousand six hundred and thirty-two. If properly pointed thus 490. 63. 2. it might be read as the number just mentioned, but such a Notation would be inconsistent with our Arithmetical rules for computation. Hence the necessity of supplying the cyphers. Taking these digits as here set down, the children should be reminded that as there are neither *tens* nor hundreds in the units period or group, their places must be supplied by cyphers, and as there are no hundreds mentioned in the place for hundreds in the thousands period, a cypher must be put there to indicate that there are no hundreds of thousands. It would therefore be a good exercise for children, to supply cyphers to digits set on the blackboard so as to read different numbers. Thus:—

Millions.	Thousands.	Units.
4.	46.	7.

How are the cyphers to be supplied so as to be read forty millions four hundred and sixty thousand seven hundred? 40,460,700. How are the cyphers supplied so as to be read, four millions four hundred and six thousand and seven? 4,406,007, &c. In doing these exercises on their slates, care should be taken that one does not copy from the slate of another. As it is more than probable that some will be in error, one child who had it right, should be required to advance to the blackboard and do it there for the information of all, at the same time giving his reason for what he set down.

Addition.—As much of what relates to Addition and Subtraction has already been anticipated, it will not be necessary to go into these parts at any great length. When the pupils understand the values of the symbols or figures, and can add up to 20 with ease, they might be exercised at such questions as 7 and 5? 8 and 9? 11 and 3? 8 and 4? 13 and 7? &c. Should there be a pause for an answer, or should many be unable to answer correctly, the strokes represented by these numbers should be made on the blackboard and counted. When they can readily tell the sum of two numbers involving a result of more than *ten* and less than twenty, the theory of *repeating* might be followed up, thus 7 and 9?=16. 17 and 9?=26. 27 and 9?=36. 47 and 9?=56 &c. Again 5 and 8?=13. 15 and 8?=23. 25 and 8?=33. 35 and 8?=43 &c. So soon as the idea that if 15 and 8 make 23, and that 25 and 8 make 33, and that 8 be added to any other number whose unit is 5, the number it will make must have 3 for its unit, the drudgery of addition is over: the similarity of sound will not only assist the memory of a child, but assist him in catching the idea. But such questions as 4 marbles and 5 marbles how many? 10 lollies and 6 lollies how many? should not be neglected. Care should be taken in giving numbers to be added that they should represent things of the same kind. Such questions as 4 cows, 3 horses and 7 sheep, how many? should be avoided as tending to confuse children. So is that method of 4 and 1, 5 and 1, 6 and 1 &c., with 4 and 2, 5 and 2, 6 and 2, to be also avoided as leading children to fall into an unintelligible groove. Let children have their attention directed to objects with which they are familiar, such as marbles or lollies. We might ask for the sum of various quantities such as 5, 3, 8, and 4, making strokes on the blackboard to represent the articles they are desired to add together.

While children are being taught Numeration they should be also taught Notation, and with these exercises initiatory instruction in Addition should likewise be given in some such way as this:—You have a number of marbles in your pocket. Suppose 28; if you get 5 more, how many then would you have? 33. In the event of your gaining 9 more? 42. To illustrate this on the blackboard we enquire, how many had we before we gained the 9? 33. Now we make 9 strokes—hold up your hands when the ninth is drawn—then on counting, it will be found that the 9 added to the previous number will make 42. They will now perceive that Addition means increasing a quantity or number. But suppose the person lost 9, instead of gaining them, how many would he have? 24. The arithmetical signs might now be introduced. If we desire to show that 9 is to be added to 33, we write 33+9; which implies addition. But if we want to show that 9 is to be taken away from 33, we express it, 33−9. The result we show by the sign =, as 33+9=42, and 33−9=24. Suppose Thomas has 17 marbles, James 9, William 28, and John 265, how many among them? Such a question should be set down thus: 17+9+28+265. In order to mature their knowledge of Notation, these numbers should be read out to the children before putting them on the blackboard. Larger numbers might also be set down by the teacher, but in the same line, thus: 750+34+8976+327+89079. The children should be required to read each number correctly before setting it down on their slates. And they should be instructed to be careful to place the units under the *units*, and the tens under the *tens*, &c. It is almost certain some of the class will be in error. The whole operation should then be done over again on the blackboard, so that those who were wrong may the more clearly see where they went astray. Meantime the pencils should be collected to prevent any alteration being made on the slates, and the teacher should assume total ignorance of the mode of proceeding, leaving it to the children who are tolerably well-up in the proper method, to direct him, and give the reasons for their directions, he interfering only when some opportunity for *new* information may present itself, or when all in the class fall into error. When the sum is done they should be required to compare the result with their own. The advantages of proceeding theoretically as well as practically from the commencement are very great. Such a plan not only greatly facilitates future operations in arithmetic, but prepares the mind for mathematical study, and so invigorates the understanding that an intelligent knowledge of surrounding objects will be greatly promoted.

(To be continued.)

(The following Article is from the pen of a Pupil-Teacher, and is printed literatim. It is inserted as an encouragement to others to endeavour to excel in composition.)

A HISTORY OF EDUCATION.

Education in its literal sense, means the leading out of the human faculties by the imparting of knowledge, though in modern times it has come to mean the teaching of technical branches such as reading, writing, etc., but this restriction is more understood than implied, as the teaching of trades, and even of the most common acts of life, may come under the term appropriately. Taking the word in this wide sense, we will find that more than three-fourths of the education acquired by any person is purely spontaneous, being obtained chiefly by observation and experiment, as for instance, learning to avoid fire, a thing which children seldom do except by observing the effects it produces on others or else by personal experience. It requires no exertion on the part of the child to obtain this knowledge, and indolence would have no baneful effects as regards it, so that none but idiots can pass through the world without obtaining a full share of it, hence as it comes of its own will, as it were, it receives the name Spontaneous Education.

First Period.—During the early ages of the world, this was probably the only kind of education known, as the people were almost entirely engaged in pastoral pursuits, and nothing, except the traditions of the country, was learnt by any other means than personal experience. The confusion of tongues had much to do with the advancement of education, the people were forced to migrate to new lands, in which many obstacles had to be overcome, before they could obtain a proper subsistence. After many attempts to surmount them, and, probably, as many failures, some one would hit upon a practicable plan and communicate it to his neighbors, who again would teach it to their children, till, each generation adding something new, there would be such a mass of heterogeneous learning as to render it impossible for any one to teach it, besides attending to the duties of his calling, so that teaching would come to be looked upon as a distinct profession.

As a natural result of its features Egypt was the cradle of art and science. Having always an unclouded atmosphere the

Egyptians were among the first to observe the stars; requiring to settle the boundaries of their lands with nothing to mark them, when the Nile rose, they were obliged to have recourse to a rude kind of geometry; living in an unhealthy land, they were forced to study medicine, and possessing the power of imitation in a high degree, they were early led to embody their thoughts in those symbolic signs now termed hieroglyphics.

Accordingly, the Egyptians were famed for learning, and even in the time of the Greeks and Romans, the highest praise that one could bestow on a scholar, was to say that he had learned all the Egyptians could teach. Stephen in his apology before the Jewish priests, says, " And Moses was learned in all the learning of the Egyptians and was great in word as in deed."

Yet Egypt, with all its wisdom, exerted a comparatively small influence on the history of the world until its overthrow. Their laws closely resembled those of the Chinese, they were intended to prevent ambition, and to make every thing stationary after a certain degree of advancement had been obtained. Every man was obliged to pursue the calling of his father, and to remain all his life in the condition in which he was born, he was also forbidden to communicate the niceties of his art to foreigners, hence Egypt remained almost as secluded in those days, as China is now. A few improvements were brought over to Greece from Egypt, but as in the case of the importation of gunpowder and silk into Europe, many years elapsed before they were put to any real use, so that Egypt may be said to have been out of the world till the time of the Romans.

Second Period.—The same effect may be noticed in the laws of the Babylonians and Assyrians, but a contrary in those of the Persians, who had little learning, yet possessed a greater influence than any other contemporary nation, for we find every subsequent lawgiver, down to the decline of Greece, following their example. The Persians were the first to adopt a system of public education. Boys were all brought up together and received the same instruction in fencing, archery, virtue, and justice, the latter being taught just as we do reading or any other branch of modern education. Their design in all these wise measures, was, to train their children in the proper path while young, and so, to prevent crime in their country, thus in reality acting upon the maxim that " prevention is better than cure." This motive should ever actuate teachers of the present age, since, if an evil habit is allowed to gain control of a child, it can never be totally erradicated, and very seldom even partially. They should remember, that if ever prisons are abolished it will be more through their means than through those of any other body of men.

At Sparta a similar idea was adopted but with a totally different object Children were brought up together, and taught every description of military art, but instead of being taught to look upon virtue as the grand object of life as in Persia, they were taught to consider it as subservient to the welfare of the state. A man was expected to fight, cheat, murder or do anything for the advancement of his country, so that among the remainder of the Greeks, Spartan faith was as much a term of reproach as "Punica fides" was among the Romans. The Spartan laws were framed and executed with the grossest inhumanity. When a man child was born, the elders of the tribe to which he belonged were obliged to visit him and decide whether he was worthy to live or not, if he were too weak to make a good soldier in manhood, he was thrown into a cavern prepared for that purpose, and there allowed to die, if strong and robust, he was sent to the public school when he became 7 year old. There he was made proficient in everything that could be of service to him in war. He was taught to steal, and allowed to escape unpunished if he was not caught in the act, but punished if he should not be nimble enough, not for stealing, however, but for being caught, by this Lycurgus, who framed these laws, intended to render the young men expert and adroit. He was taught to bear suffering with invincible fortitude, and never to complain of anything, no matter what it might be. As a public exhibition of what they had learnt in this respect, boys were yearly whipped in the temple of Diana till the blood ran down her altars. During these disgusting festivals, many boys expired under the lash, without uttering a groan, while their parents and friends stood beside them admiring their patience until they died.

Many other illustrations of this inhuman system of education might be given, but these will suffice to show it in its true character.

The remainder of Greece looked upon the art of war, as the chief study of youth, but skill in more peaceful subjects, was highly esteemed. Military tactics were taught but without the roughness manifested by the Spartans. Dancing and wrestling were held in high repute, as tending to give a noble bearing to a youth. Music, painting, and sculpture, were greatly cultivated and rose to a degree of excellence, much beyond that of modern ages. Greece, and more particularly Athens, may be said to have been the school of polite learning for the age in which it existed. People of every nation sent their sons to be educated along with the Athenian youths. With them, they learned grammar on the most correct principles and acquired that taste and delicacy of expression for which the Athenians were so famous. Poetry, philosophy, elocution and mathematics also shared their attention and commanded a large amount of popularity.

These various branches were taught to nearly all of the Athenian youths, by the most talented persons, such as Socrates, Plato, and Epicurus, so that, while they were famous as warriors they were still more famous as scholars. In this we may notice the difference, between the policy of the Egyptians and Grecians. The former left the acquisition of knowledge to the priests, and allowed the poorer classes to remain in their ignorance, often compelling them to work an average lifetime in the piling of a useless heap of stones, while the latter expected every one to acquire a fair education, and at the same time to labor for his own and his country's welfare.

But in course of time this state of affairs was changed, the Sophists corrupted many of these studies, and the voluptuousness consequent on a long career of success and prosperity enervated the young men and caused them to be incapable of the perseverance of their forefathers. The subjugation of Greece by the Romans put the finishing stroke to a work already begun, and thenceforth until the 10th or 12th century Rome became the seat of learning. Their style of education was in reality an improvement on the Grecian, though many assert the contrary, for, however noble and high minded the Greeks might have been, in all the departments of polite learning, the system of educating youths, would never have brought the world to its present state of civilisation. Poetry, music, and sculpture are to countenanced only as an innocent amusement, while eloquence and mathematics, are beneficial to a certain degree, but can never be of any great practical use to the human race. At Rome these were looked upon in their true light and more useful branches introduced as a preliminary step. Arithmetic, writing, history, grammar, geography, rhetoric and elocution were the subjects usually taught, while *after* these came mathematics and the fine arts, thus reserving the more abstruse and ornamental parts, to the end.

After the commencement of the Christian era, Rome declined, and the tide of civilization rolled westward, but it left its mementos in the ruined statues and buildings still standing to attest to the glory of a past generation.

EXAMINATION PAPERS.

The third question in our hypothetical examination paper was—"'A lesson is not given until it is received.' What duty may be inferred from this maxim?" A moment's consideration will show that this question involves (1) the whole theory of lesson-giving, and (2) the extent of a Teacher's responsibility for the progress of his pupils.

As regards the former of these points, it should be borne in mind that a lesson may have been well studied, the matter may be carefully and logically arranged, the exposition may be clear and simple, the illustrations apt and striking, and the lesson delivered in a skilful and animated manner, and yet the pupils may carry away no new facts and acquire no new ideas. The lesson has been *presented*, but not *given*, because not *received*. Such a result may be explained in many ways. The attention of the children may not have been gained or but feebly sustained by the Teacher; or the lesson may have been of so pleasing and interesting a kind that the pupils failed to realize the duty expected of them, and have remained passive when they should have been actively engaged. Most probably the true reason of failure will prove to have been the omission on the part of the Teacher to require the children to make the necessary mental effort. In modern methods, this is the point of greatest danger. The Teacher does too much, the scholar too little. The remedy lies in the proper use of questioning. Let the Teacher's statements be intermingled with suggestive questioning. This will show whether the children are attentive and whether they understand the subject under consideration. Should any want of attention or understanding be manifest, the obvious course is to reiterate the portion of the lesson already delivered, and to repeat the process till all doubt on this head has been removed. Further, the Teacher should recapitulate frequently until the pupils have acquired such a familiarity with the subject as will prevent them from forgetting the earlier parts of the lesson by the time they have arrived at the conclusion. In short, the old maxim, "first question the subject into your pupils and then question it out," exactly represents the Teacher's duty in this aspect of the case.

Some Teachers profess to entertain the opinion that their duty terminates with the mere presentation of the lesson. They aver that the responsibility of learning—*i.e.* of receiving the lesson—rests upon the pupils. This doctrine is oftener practised than avowed, however, for few would have the hardihood to maintain it in an open discussion. If this principle were carried out in other spheres of activity, the result would be most disastrous. The physician would then hold himself absolved from any further requirement than simply telling the patient the nature of his disease; the lawyer need only give his opinion without taking the steps necessary for his client's interest; and the clergyman would simply point out the truth without enforcing the practice of right upon his flock. A teacher, also, cannot be said to have performed his duty until he has fully satisfied himself that his teaching has been effectual for the intended purpose—that the pupils have derived benefit from it. This can readily be discovered by examining them on the subject. By testing their knowledge and understanding, the teacher finds out whether his instruction is of that effectual kind that alone possesses any value, or whether it is mere talk, without aim and without result.

Assuming our previous remarks to indicate the true theory as to lesson-giving and the Teacher's responsibility, the duties to be inferred from the maxim that a lesson is not given till it is received are twofold:

1.—That in giving lessons, the Teacher should adopt such methods as will necessitate a reasonable amount of effort on the part of the pupils, and require them to endeavour to grasp the information offered.

2.—That the Teacher, by regular, severe, and conscientious examination, should ascertain whether the pupils have received the lessons presented to them, and repeat the subject until he can be certain it is well known and understood.

The subject of Object Lessons which requires fuller treatment than could be given as replies to Examination Questions, we purpose to deal in future issues of this Journal.

INTELLIGENCE.

France.—*(Continued.)*—It appears that in the 37,510 communes of France there are 694 which possess no school; but considerable progress is being made to fill up this gap, as in the last two years schools have been built in 162 communes. Altogether in the same period there have been erected in France 1202 schools, and 135,014 pupils have been added to her scholars.

After inquiries, it has been ascertained that of the 4,000,000 children, between seven and thirteen years of age, rather less than 700,000 do not attend primary schools; in 1865 it was found that 440,000 received no instruction at all, so that 250,000, in round numbers, have received instruction either at home, or in establishments of secondary instruction, or from illness, &c., were incapacitated, or, perhaps, were only just seven, or had left school before thirteen years of age.

In 1865 the half of the children attended the whole year at the schools.

On Dec. 15, 1866, there were 28,546 evening classes. In the last year 600,000 adult scholars attended these classes, of whom more than half either acquired entirely or completed the elementary education given in the primary schools. To establish the necessity for adult schools the Minister, M. Duruy, obtained statistics which proved that the mean for all France of those who did not sign their names at marriage was for men 25·88 per cent.; for women, 41·02—the general mean being 33·45 per cent., or as nearly as possible one third of the population. But in certain departments the number mounts to 51, 61, 67 per cent. men, and 75 to 80 per cent. women in that deplorable state. The Minister winds up an admirable resumé by detailing improvements in course of being effected, which will enable every subject of the empire to attain education, at least as far as primary instruction is concerned—that power so equally indispensable for all moral excellence as for all professional progress.

On the Administration, he adds, devolves the care of multiplying normal schools, of ameliorating instruction, of perfecting the methods, of rendering the teaching more practical, producing better results, increasingly adapted to the wants of the rural populations, and more especially to elevate the schools for girls from the inferior position they at present hold; for these young girls will be one day mothers, and it is upon the knees of the mother that the child receives its first best lessons.

The number of schools in the communes in 1865 was 38,629—

Held by laymen...	19,044	Boys.
By Congregationists	1,907	
By laymen	14,469	Mixed.
By lay females	1,647	
By female Congregationists ...	1,099	
By lay teachers	8,883	Girls and Infants.
By Congregationists	10,239	

The total expense of primary instruction amounts to 70,405,125f. 25c. The 25c., about 2½d., is amusing, after 70,000,000f. Towards this expense the payment of scholars has been—

Boys, or mixed	14,351,287·43f.
Girls	4,913,225·15
Infants	351,666·16
Adults	348,883·98
Total...	19,965,062·72

i.e., in round numbers, about £800,000 out of the £2,800,000, of the whole.

Of 4,436,470 children who have attended school, 2,826,952 have paid, and 1,609,518 been received free or gratuitously.

In 1865, 657,401 children left school, of these—

Did not know how to read and write	91,170
Could read and write only	170,838
In addition, knew arithmetic	286,202
Had general instruction...	109,191
Total	657,401

Of these, the two first classes, making a total of 218,602 or 34 per cent. receive so little instruction that in a few years they will have forgotten all they ever learnt—i.e., one third of the whole.

To diminish this ignorance adult schools are now much encouraged, and have made extraordinary progress. In 1863-4 there were 5623 schools; on Jan. 1, 1867, they amounted to 28,546—i.e., an increase of four fifths.—(Report.)

The most enlightened populations of France are those bordering on the Rhine; the least instructed those of Brittany, the centre, the Landes, and Corsica.

The reports upon these adult schools have been lately thus summed up by M. Duruy, Minister of Public Instruction, at the distribution of prizes awarded by the Polytechnic Institution. It appears that 40,000 teachers have opened 32,380 evening schools, at which 830,000 adults attended. More than a third of that number were absolutely illiterate, or very nearly so; 23,000 only left the schools in nearly the same state of ignorance as when they entered; but all the others—that is, more than 800,000—acquired the elements of knowledge. Nearly 13,000 teachers gave their gratuitous services; 9000 spent out of their own pockets a sum of 235,000f. to promote the undertaking; 10,000 municipal councils granted funds during the present year; and the total amount obtained, exclusive of the State subsidy, was 1,860,287f. Having stated the methods of examination, he observed, writing, orthography, and arithmetic are in progress, and so are morals; for these young men, for the greater part, consented to stand the test of examination only from a grateful feeling towards their teachers. M. Duruy further observed that, owing to various causes, but especially to popular instruction, the moral habits of the population have greatly improved. (*Times*, Friday, May 24, 1867.)

PRUSSIA.—The association of working men at Berlin is worthy a notice. It is an establishment similar to our own mechanics' institutions. In 1864 the society built a hall on a piece of land bought for 24,000 thalers (£3500), and the establishment cost 44,000 thalers (£6400) additional. It is the first establishment in Germany destined exclusively to the instruction of the working class. There are 3000 members, who must be seventeen years, at least, of age. They pay three silbergroschen (10d.) a month. Of the members nine tenths belong to the working class. By the apprentice usages of the country, certain years of the apprenticeship are passed in travelling. This institution is open to these wanderers; they equal 10,000 per annum; and it is considered that 60,000 workmen have used the institution during the last seven years, the society having been really formed in 1843, but reconstructed in 1859. The arrangements seem very complete, and include lectures on all subjects of science, with soirées, concerts, and balls. A large hall and garden receive on these occasions 2000 guests, among whom are women and children. There is a library of 3500 volumes, much used by the members, especially those works which relate to commerce and trade.

SAXONY.—The following exposition of the state of education in Saxony will not be without interest to English educators, more especially when the success attending it may most undeniably be recorded in the following terms:—"We dare, without presumption, and in perfect harmony with truth, affirm that our institutions, in the main, have entirely answered all reasonable expectations. That not only have the arts of reading and writing become diffused amongst the whole nation, but a very elevated state of religious, moral, and actual instruction pervades all ranks of the population."

Under the title of schools of elementary instruction is included all schools in which the children obliged to attend them receive, for eight consecutive years (from six to fourteen years of age), a systematic education, which finishes at their confirmation.

All these schools, in their principles, set themselves the same task. To them is confided the first methodical development of the human faculties, by means of instruction and teaching; and they only fulfil their duty when they have established in their scholars all the elements of knowledge and science.

and brought out those capacities which constitute as well the education of man in general as of each one's particular vocation.

In addition to the ordinary instruction of English working-class schools, the elements of universal and natural history and geography are introduced.

A distinction, important to observe, is made in the instruction given in mere village schools and that afforded by the schools of large towns; for these latter a higher class of study is required, extending to literature (general), drawing, and geometry.

In the kingdom of Saxony the smallest village, even the most remote cottage, is included in a school district.

The attendance at school is obligatory on every child from six to fourteen years of age; and if the children neglect to go to school, the State punishes the parent or guardian (next of kin?) by a fine or even short imprisonment.

"The State," says the report, "has a perfect right to require an entire obedience to this law, because it will not be able to maintain the position for which it was itself established (viz., the good order of the people), if its citizens have not received a certain amount of knowledge and education."

So fully convinced of this view are the people of Saxony that there is no difficulty in enforcing this law. The people rather demand its requirements; and the most satisfactory proof of the goodness of the schools and of the wisdom of severity in carrying out the law, is derived from the fact of the rarity of any necessity for bringing its provisions into action.

The present generation, having itself enjoyed the fruits of this good instruction, has by degrees acquired a conviction that no greater benefit can be conferred upon their children than faithfully and conscientiously to provide for their education; and, far from abstracting them from the obligatory attendance, the poorest parents often pay for extra instruction.

All parents, rich and poor, are under the same law of education; but the richer classes send their children to schools of superior instruction, or else have them taught at home by capable teachers, who are certificated.

Every household contributes its portion to the support of the public schools of the district. The State pays nothing, except in certain very poverty-stricken places.

The contribution of each child is, in simple schools, 2½ sous a week; in the superior schools the fee rises to 5f. 10 sous a month.

The Ecoles Reales form the commercial and mechanical branch of instruction for those intended for commercial or engineering life, and the college for those of professions. In the former mathematical science; in the latter, Greek and Latin, form the bases of instruction, which seems to extend over a period of nine years. One peculiarity of Saxon education is to be found in its gymnastic establishments, for which masters are trained who pass an examination.

The Saxon Government is the first in Germany that by legal enactment has regulated the education of masters in gymnastics, and the extent to which this branch should be carried in elementary schools. Teachers of gymnastics are formed in the Gymnase at Dresden.

WURTEMBERG.—The exhibition, or rather exhibitions, made by Wurtemberg in regard to education, especially as connected with the fine and industrial arts, are among the most excellent in the building. In galerie 11 are shown the most exquisite models, in plaster and wood, of architecture, of carpentry, and all that comes under the name of artistic industry. They will amply reward the most attentive consideration of every one who believes that the progress of manufacture depends much upon art-knowledge in the workman. Not only are the forms themselves excellent, but the execution of each object is all that can be desired; and there is no other country which pretends to anything like their completeness and success. The second portion is equally worthy of observation, consisting of exhibits of the use made of this material for instruction, as shown in the works of the students of the various communal schools of art in the kingdom. No less than forty-five of these schools have sent specimens of the works of their students, and many of them are most deserving of praise for the complete artistic feeling which pervades the character of the drawings. These are hung in the gallery of the annexe in the park, behind the Bavarian picture gallery. They well repay a visit, and explain whence it comes that art in so many ways manifests itself in all the very interesting productions of that small but enlightened State.

The development of these communal schools for workmen in Wurtemberg demands consideration. In schools of technical art not only should the student be called upon to acquire the theory, but, if possible, what is even more important, each young artisan should have opened out to him, in addition to the elementary instruction given in the primary schools, those methods by which he can appropriate to himself the sum of his scientific studies; of that knowledge, both scientific and technical, so necessary—so indispensable in an age when rivalries of trade and refined public taste make such large demands on improved production.

In Wurtemberg the whole people seem to have come to one opinion on this matter, and that from a very early date. In 1818 "a series of lectures on art and mechanical science" was added to the programme of the then ordinary Sunday schools. These were enforced and created with the object of preserving the knowledge acquired previously in the day schools of the people, and establishing in the Sunday schools of large towns special classes for apprentices, where drawing should be taught. These attempts, however, seem to have produced but small results; they were isolated and wanting in unity. But in 1848 the Council Royal of Science, and that for Commerce and Industry, established a commission, in order to advance technical or trade schools. This commission appears to have worked not authoritatively but persuasively, and perhaps chiefly by the power it had of offering to the various communes (say parishes) a subvention from the State as large as the half of their expenses, on condition that the school should be organised with the object of carrying out the scheme adopted by the Royal commission.

Bavaria.—The school of art at Nuremberg was founded under the name of "The Academy of Nuremberg" in 1662. In 1852 M. Kreling, of Munich, was appointed director.

The working principles of the institute are based on the capacity of the students. A young man of talent, who devotes himself to the career of an artist, obtains here the means of making himself acquainted with all the branches of the fine arts. The less endowed student, who prefers attaching himself to a special branch of the arts of industry or architecture, receives an instruction solid and conformable to his future plans.

The terms of admission to the school are:—*a*. The candidate must be sixteen years of age; *b*. Must have attended, with successful results, a preparatory school of drawing and modelling; *c*. Must give actual proof of talent in these arts; *d*. And submit to a satisfactory examination. He is then admitted for six months, and finally as a pupil of the school.

Austria.—The art-institutions of Austria are similar to those of Germany in general. The specimens from their school of weaving at Brunn seem peculiarly excellent. They exhibit some magnificent collections of models in wood very cheap; also some large drawings for a whole class to copy are good. It would of course be impossible to hope for a demand in England for these materials, as the expense of carriage would depreciate their value as to cheapness. The models of M. Bauer, of Pick, are very good; also those of M. Theodore Böhm, of Reichenberg. The Imperial School at Vienna (52 and 53) shows some plaster modelling which may be usefully compared with that of Lambeth School of Art.

In class 90 (4), a museum for schools has high merit; also some small models of articles used in teaching for infant schools; also some models in plaster of insects (foraminifers), of M. Charles Gerold, of Vienna; also models of natural history, by M. Fric.

Italy.—It is gratifying to observe that the renewed kingdom of Italy, amongst other progresses, rapidly advances in the education of its people. Normal schools and schools of art and drawing have been established, and the documents of the Minister of Education at Florence are highly valuable for the information they afford. The Institute Manin at Venice deserves very high mention, class 89 (49); also the Technique Institution of Florence (45). There is also a society (Association Italienne pour l'Education du Peuple) answering to our great societies. Indeed the progress of education among the poor in Italy seems to excite by its success the jealousy of the upper classes, who have united to procure for their own children the advantages afforded to the classes below them, and have formed a society at Milan for that purpose.

EGYPT.—From Egypt there are calendars, Arab and Turkish; books for schools, and also works executed by the scholars, interesting for themselves; but few of our visitors will be able to decipher their contents. It is a mistake to suppose that Mahommedans are uninstructed. All read and write; all repeat the Koran; and it is a condition of their religion, I hear, that every Mahommedan writes out during his life a copy of that book of the Prophet.

SPAIN.—The following sketch of the state of public instruction in Spain will be interesting, as it concerns a people whose institutions are so little known in England. It is from the pen of M. Carderera, the Spanish juror, to whose kindness I am much indebted. He is an Inspector General of Schools, and chevalier of several orders.

The Instruction of the people (instruction *primaire*) is conducted in infant schools, elementary schools, superior schools, and adult schools. Any certificated person may keep a school. There is a school for boys in every village, and one for girls in every village of 500 persons; and for every 2000 persons additional there is another school both for boys and girls. The teachers are very well recompensed.

For the secondary, or higher, instruction there is an institute in each province, maintained by the province; also private schools. The instruction is given in two branches, classical and commercial, industrial or agricultural. The highest class of instruction includes philosophy, literature, sciences, law, theology, and medicine. There are ten schools in the University for these subjects. In the University of Madrid all the branches are studied; in the universities of other towns only three or four.

The second course comprehends architecture, the fine arts, mines, engineering, (*ponts et chaussées*): agriculture. The chief schools are at Madrid.

There are also normal schools for the formation of teachers.

The following are the statistics:—

Public boys' schools	13,238
Free boys' schools	1,643
Public girls' schools	6,117
Free girls' schools	1,770
Mixed schools	2,094
Infant schools	573
Adult schools	1,665
Total	27,100

The number of pupils is, in

Public schools, boys	763,022
Private schools, boys	87,869
Public schools, girls	424,112
Private schools, girls	94,074
Total	1,369,077

The expenses of these schools are thus stated:—

At the charge of the communes (parishes),	17,178,359f.
At the charge of the provinces	1,547,245f.
At the charge of the State	245,916f.
Endowments	409,620f.
Payments of scholars	2,350,905f.
Total	21,732,045f.

Education of the working-class schools in Spain is conducted, as respects teaching, on the model of the British and Foreign School Society; and their infant schools on that of the Home and Colonial.

I took great pains in going through a series of their Bible pictures for infant schools, and there was nothing that in any way would offend the most Protestant eye. They were, in fact, exactly of the same character as our own.

The schools are entirely (as I understood) Catholic, none other being (as may well be conceived) sanctioned.

The above statements will prove that education is in a much more advanced state in Spain than is commonly believed in England.*

To any reader of these pages it will have occurred that all nations desire, as I started by affirming, progress; that most nations have devoted very large funds to education, both to the higher, and the lower, and the artistic; that they have all obtained for purposes of education, the assistance of the ablest men, whom each Government has not only created, but also provided with ample emoluments, and rewarded with noble honours. Such is the report as respects foreign nations. None are ignorant as to what extent such observations apply to ourselves. But if there be any who imigine that England can remain behind, can fold its arms quietly and look on without taking steps to emulate the progress of other people, and yet retain a high position at the head of nations, such are entirely mistaken. The present Exhibition proves the fact. Once the chiefs, we are now scarce the equals of our rivals. To their superior common class education intelligent foreigners attribute this result, as well as to the pains taken in forming overlookers and foremen; and in answer to objections that have been made, each Continental State unites in one common voice to declare that moral progress and virtue have gone hand in hand with intellectual, artistic, and scientific advancement.

I cannot better conclude than by repeating the remark of M. Dufresne:—"Miserable is that nation which, after this exhibition, comprehends not the necessity of Progress."

UNITED STATES.—In 1865, two Schools Inquiry Commissions, then sitting in England and Scotland, considered it advisable that an investigation should be made into the systems of education which prevail in the United States and in Canada. The Commissioners accordingly appointed the Rev. James Fraser, who had acted as Assistant on a previous Commission in England, to conduct the inquiry. We have received a copy of Mr. Fraser's report, and purpose to transfer to our pages such of his remarks as appear likely to interest teachers in this colony. The report as a whole is worthy of attentive perusal by all who are engaged in the work of education, and we feel confident that the extracts we shall publish will not fail to be acceptable to our readers.

The instructions given by the Commissioners to Mr. Fraser were the following:—

"1. You will ascertain to what extent schools are provided for the people by laws passed for that purpose, and to what extent the means of education are left to be supplied by the voluntary efforts of individuals. You will inquire whether parents are under any legal obligation to have their children educated; if so, whether those who neglect this obligation are subject to any penalty; and whether the result is the prevention or diminution of juvenile delinquency. You will state not only the provisions of the law on these subjects, but also the manner in which it is enforced, and the extent to which it is practically operative.

"2. You will inform yourself of the manner in which the schools are supported, whether by any funds in the nature of endowment, or appropriation by the State or central Government, or by local taxation, or by

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* Having visited schools in Madrid, Seville, and Valentia, I am able to state from personal observation that the schools of the country equal the average of our own. There are few infant schools here as good as that at Valentia.

subscription, or by school fees. If there are any funds appropriated by the State, you will ascertain the source from which they are derived, whether from the sale or allotment of State lands, or from general taxation, or from any other source; their amount, and the principle of their distribution among the various local bodies. If they arise from special or local taxation, you will ascertain the principle and manner of its assessment, and its amount relatively both to the income of the ratepayer and to the other taxation of the country. And in all cases you will ascertain the average cost of the education of a scholar, and particularly its full cost to the parents.

"3. With respect to the *administration* of the schools, you will inquire into the relations which exist between the State or central Government and the local Government; into the constitution of the local governing bodies; into the relations between them and the teachers, and of the teachers among themselves and with their scholars; into the extent to which mistresses are employed in schools for either or for both sexes; into the character and frequency of any inspection or control by the governors; into the qualifications, duties, and salaries of the teachers, the tenure of their office, and the character and repute of their profession.

"4. The *internal organization* must depend greatly on the mutual relations between different schools or classes of schools, how far they compete with or supplement one another, upon the ages and numbers of the pupils, and the degree in which both sexes and different ranks of life are associated in the same school. And here, the character of the lessons and exercises; the way in which they are prepared, whether with or without assistance; the method of teaching, whether conducted in large or small classes or by individual instruction; the books and apparatus used; the seasons and hours of school work, with their distribution among the different subjects of instruction; the length of vacations; the amusements and social life of the pupils; the size and arrangements of the school buildings and playgrounds; the supervision exercised over day scholars out of school hours, and the proportion of boarding schools to day schools, and of boarders to day scholars, are details of much interest and importance, which you should study in small and in large schools, in the country districts as well as in the thickly-peopled towns. You will ascertain the average attendance of the scholars and the number of months or weeks of attendance during the year. You will also pay special attention to the provision made for discipline and moral training.

"5. With regard to the *educational results* you will endeavour to examine, either *viva voce*, or on paper, or in both ways, some of the ordinary schools as well as those of a more important character, to be present during the school work, and ascertain whether the subjects taught are taught with more or with less accuracy and whether the result is a greater or a less degree of culture than in the corresponding schools of this country. You will inquire into the effect of the association of scholars of both sexes and of different ranks of life in the same school. You will also investigate the effect of the school system and teaching on the formation of character, and their adaptation to the subsequent life of the pupils.

"6. Lastly, you will inquire whether any and what provision is made for religious instruction; to what extent children of different religious denominations are taught in the same school, and what is the effect of this association both at the time and in after life; and in what manner any difficulties that may arise from the existence of different religious denominations are met."

There can be little difference of opinion as to the sufficiency of these instructions which seem to have been acted upon in a very thorough and systematic manner. Mr. Fraser has succeeded in collecting a large mass of detailed information which he has reduced to an orderly arrangement, and upon which he has based some useful generalizations. The occasional introduction of anecdotes and the discussion of principles apart from the mere details of the system under consideration, renders the report more than ordinarily interesting, without detracting from its value as an official record. The portions of the report which teachers would feel most desirous to read are not the first in the order of inquiry, which we shall accordingly disregard in our quotations.

"Americans," Mr. Fraser remarks, "commonly divide their schools into classified and unclassified, graded and ungraded schools. The unclassified school is one in which the organization is of the character that we call in England 'higgledy-piggledy'; and, of course, is a type that is only found in the most backward rural districts." Such schools may sometimes, though fortunately, not often, be found in this colony. They are examples of the Individual System in vogue at the time when Bell and Lancaster began their labours. "The classified ungraded school is one in which the children are arranged in classes upon a certain recognised principle ; but the school is not one of a graduated ascending series, being, in fact, supposed to be complete in itself, and all the classes are taught in one room, generally by a single teacher with the assistance perhaps of monitors. Such are most of our own English parochial and elementary schools." The same description applies with equal correctness to the majority of our country schools. "The graded school is part of a system divided into two, three, or more parts, each part, except the two extremes, organically connected both with one below of which it is the advance, and one above for which it is the preparation ; each grade ordinarily corresponding with and representing a year's progress ; and though that progress is meant to be equable throughout, at certain points in it there are well-defined breaks, and the scholar passes from the primary or infant school into the grammar or secondary school, and from that again into the high school, in which the system culminates." The errors of classification frequently complained of in New South Wales are common, it would seem, in America. The causes are not identical, however, in the two countries. According to Mr. Fraser, defective classification arises sometimes from defective organising power in the teacher; more frequently from the mischievous multiplicity of text-books. He quotes from a New York report the following observation :—"A great evil in our schools at the present day is the diversity of text-books in use ; many, perhaps most of them, may be works of merit ; but such is the variety of them, that it is in many cases quite impossible for teachers to classify their pupils according to their attainments, or to conduct the recitations by the most approved methods." Some ludicrous instances of mis-classification are noted. In a school consisting of sixteen scholars, were found twenty-five distinct classes, while in another of the same number of scholars, there were thirty classes. To make such an arrangement possible, the same scholar would be placed in different classes for different subjects. We venture to affirm that no inspector has discovered an equally absurd classification in any of our schools.

As regards the size of schools, Mr. Fraser says "It is impossible to fix upon any number which shall indicate the average size of a common school. Indeed, the extremes are so far apart that to take the arithmetical mean would be of no value for any practical purpose ; and this is equally true of rural districts and of cities and towns. In the city of New York I visited one school building in which there are ordinarily gathered together in its three departments, every day, about 2,500 children. I observe in the tabulated statistics, others, also in three grades, where the daily attendance does not exceed 500 ; one, in two grades, where it does not reach 100. But though it is thus useless to attempt to measure by any average the size of *schools*, it is not difficult to measure the size of *classes*, and the proportion of scholars assigned to a single teacher, because this is a matter generally determined by rule. The classes in the lower grades are allowed to exceed the average, and those in the higher grades to fall below it ; but, speaking generally, it appears to be the received opinion in America that one teacher to fifty pupils is a just proportion. Of course, with such numbers, individual instruction is impracticable to any extent, and indeed can hardly be said to be attempted. The class is the unit. In a perfectly graded school each member is supposed to be advanced to exactly the same point, and to be capable of receiving exactly the same instruction. The theory, too, is that each scholar is equally advanced in all the studies of his grade. As a general rule the whole class is, or ought to be, promoted at once. There are advantages in this system and there are disadvantages. The great advantage is the facilitation thus afforded to the teacher. It is evidently what the Americans are so fond of, 'a labour-saving' contrivance. The great disadvantage is that common to all simultaneous methods, it is indiscriminating. The teaching is directed to the quicker scholars, and the slower are swept off their feet and carried upwards and onwards like a weak man by the impetuous rush of a crowd. I suspect that this want of individual teaching in the lower and larger classes is the great cause of that want of thorough grounding which is so much complained of in the higher and smaller classes. Perfection of grading *may* merely mean perfection of mechanism, and mechanism is incompatible with individuality because it excludes conscious independent effort." In the latter remarks, Mr. Fraser has pointed out the danger of the modern plan of school organization, and the objections he specifies are no doubt characteristic of the system. But he is evidently unaware of the checks by which the evils he mentions can be greatly diminished, if not wholly avoided; nor is he acquainted with the expedients by which the skilful teacher can fully develop that individuality which his pupils might otherwise be in some danger of losing.

"The ordinary school day consists of six hours, but different arrangements of time prevail in different cities and even in different schools of the same city. In Boston, the division of the day into two sessions of three hours each is preferred; in New York the more usual plan is to have one continuous session of five or six hours, interrupted at intervals by a recess. * * But remembering the intensity with which American teachers teach and American scholars learn, I cannot help thinking that the Boston arrangement, which in the heat of summer allows a three hours' interval between the morning session and that of the afternoon, must be more conducive to health, and so to progress. Even in Boston there are complaints of the physical ill-effects of 'high pressure', and the urging system pursued by some teachers is strongly reprobated in the Superintendent's two last semi-annnal reports; nor can there be any doubt that everywhere, at least in the city schools, a severe strain is put upon the physical strength both of teachers and pupils, particularly in the girls' schools. And this strain, I fancied, seemed to be felt even more in New York than in Boston. There appeared to me to be a more vigorous tone in the schools of the latter city, more spring and elasticity, and animal spirits; and I remember very distinctly in a New York school, at the close of one of those little addresses which, in my capacity of a visitor, I was so often called upon to make in the schools, in which I had endeavoured to explain our English system, and had spoken of the growing prevalence of the opinion that five hours of study properly distributed over the day were as much as it was prudent to attempt to get out of young people between the ages of twelve and eighteen, a general sigh issued from the class of girls who had been listening to me, followed by the audible expression of a wish from several that the same opinions might begin to prevail there." We may certainly congratulate our fellow-teachers upon the fact that in New South Wales the error pointed out by Mr. Fraser in the foregoing remarks has been avoided. It may also be questioned whether the "intensity" of our teaching is likely to injure the health of either teacher or scholars.

In Boston, it seems, "home lessons" are prohibited in the primary schools, and also, as regards *girls*, in superior schools. The same rule obtains in the primary schools of New York. It is also a peremptory rule in Boston, not, however, always observed, that scholars shall not be allowed to occupy with study the time allowed for recess. Another important direction is that the lessons which require most attention and thought should come early in the forenoon, while the mind is in the freshness of its power.

The superior schools recognised in most American educational arrangements are the Grammar School and the High School. Both are conducted upon the same principles as the common school, but give a much more extended course of instruction. In fact, comparatively few parents can afford to continue their children at school for a period sufficiently long to enable them to pass through the High School course. At Boston in 1864, the average attendance at the Grammar Schools was 12,601; the average attendance at the High Schools was 691.

PRACTICAL HINTS ON EXAMINATIONS.

1. Let us realize the idea of an Examiner. He is an impartial judicial man, of a turn of mind decidedly analytical. Compact of mere judgment, and curiously given, he sits somewhere asking questions of a certain searching quality, and pausing for a reply. He is known to be most patient of trouble, attentive to every hearing, but never satisfied till answered. He has an object in view, no doubt, but he seems simply to desire the information, and his humour must not be crossed. Exact information he has set his mind on; give it him and you are valued accordingly: but vague ideas he is not constructed to understand, and a compromise, in the shape of general knowledge on some other point, he has never been known to accept. He is, moreover, singularly unsentimental. Appeals to his feelings are worse than vain: it is feared he would smile. With such a character it is not difficult to see how we must deal, but if a previous acquaintance, which, though sometime since interrupted, was once close and intimate, has not been quite lost upon us, we may perhaps say some seasonable words to prepare others for an interview.

2. In the first place, blank ignorance had better be expressed by blank paper. Extremely few cases are on record of Examiners having been mystified into an acknowledgment of obscure merit. Accurate knowledge is a most difficult thing to counterfeit, and the impression left by the attempt would certainly be unfavourable either to the candidate's judgment or his honesty.

3. Partial knowledge, or indistinct recollection may, however, often very fairly be turned to account. Make no attempt, however, to varnish or give it the look of perfection. Let it stand for what it is worth, as an evidence merely of having known. You have not brought the specimen entire, but at least you have been in the country where it grows. It will be time, however, to think of these torn leaves after the better preserved are all arranged. They are not much valued by collectors.

4. Neat writing is a point of very great importance. Reflect that you cannot yourself fully estimate the difficulties which your writing may present, and also that the time, (we have already said that they have no temper), which your Examiners can bring to bear upon them is finite.

5. As a general rule for guidance we would say, realize Euclid's idea, that he has to explain himself to a man who is rather prone to take exception here and there, where his judgment is not satisfied, and wait until it is; one who, though he is able to appreciate all that appeals to reason, nevertheless likes to be talked to as if he knew blank nothing.—*Papers for the Schoolmaster*.

EXAMINATION OF TEACHERS.

It may be useful for Teachers to know that examinations will take place in the months of March, April, June, July, and October. This notice, it is hoped, will enable Teachers to make their arrangements in good time.

TEACHERS' TEXT BOOKS.

We understand that the Council of Education has resolved to assist Teachers in purchasing such text books as they may require in their studies for examination. The precise terms on which the aid will be given have not yet transpired; but, we believe that half the undermentioned amounts will be granted by the Council on condition that the balance is paid by the applicant Teachers, viz.:

First Class Teachers..........	£5.
Second Class Teachers........	£3.
Third Class Teachers..........	£2.

All necessary information will doubtless be shortly furnished to Teachers.

VACATIONS AND SPECIFIED HOLIDAYS.

We have been requested to draw the attention of Teachers to the fact that the vacations and holidays sanctioned in the Council's Regulations *ought* to be observed, and that the interval of rest thus provided should be taken advantage of by Teachers. Some Teachers have complained that, by certain schools being kept open during the vacations, pupils are unfairly withdrawn from the schools they usually attend. We trust that in this, as in every other, matter, Teachers will deal honorably with their fellow-labourers in the work of education, and abstain from taking any steps that may be misconstrued.

NOTICE TO CORRESPONDENTS.

Mead.—A correspondent writing under this name takes exception to the statement contained in an article published in our February number that "a teacher cannot take proceedings in the name of the Council of Education for the recovery of fees, unless the Council's permission has been previously obtained." He thinks that any teacher, under any circumstances, should use the Council's name for recovering school-fees without the Council's knowledge or consent. We cannot deal with such a misconception of the matter further than to remark that any Bench of Magistrates who proceeded to adjudicate in such cases without requiring proof that the proceedings were taken by authority of the Council, would exceed their powers, and that their decisions would be liable to reversal.

Teachers have full right to sue for school-fees in their own names as for an ordinary *debt*; but the summary proceedings before any Justice or Justices of the Peace, provided by the 17th Section of the Public Schools Act, cannot be taken without the Council's consent.

Thomas Jones Jenkins is requested to favour us with his Address.

ORIGINAL CORRESPONDENCE.

(Writers of all communications intended for publication in this Journal must furnish us with their names, not necessarily for publication, but as a guarantee for good faith and correctness. The Conductors of the Journal are not responsible for opinions expressed by correspondents.)

THE "CUI BONO" OF KNOWLEDGE.

Mr. Editor,—A thoughtful man is frequently taunted by his associates with the exclamation, or question, What is the use of all your thinking? If they catch him enjoying a "brown study," they seem delighted at the opportunity of a supposed triumph, by putting the simple question, "What are you thinking about?" presuming that the blank look which is given in reply, implies an incapability of answering on the part of the studious delinquent. Such *quasi* triumphs are of very dubious reality. The student is not always, if ever, so uselessly employed as his tormentors imagine; even though he may, at the time questioned, be agitating some vexed question in grammar. I say grammar, in preference to any other subject, because that is the one which, in all the range of inquiry, is thought to be the most useless of all inutilities by these inquisitors.

Some teachers are not blameless in this matter of constantly inquiring after the "cui bono" of that knowledge, which is required to be their possession by the Council of Education. "What is the use of me puzzling my already distracted brains by learning this and relearning that?" is the not unfrequent remark of those who are low in the scale of attainments. If such teachers were earnestly to set to work at the prescribed studies, they would probably soon be able to answer the question to their own satisfaction. And it will do them no harm to read these remarks; for if they do not agree with all that is stated, the reading may lead to some thinking, and the consequence of the thinking may be a better answer for themselves than the writer of this paper may be able to give.

It is the peculiar privilege of man to be able to think and reason, and by thus thinking and reasoning to improve his condition in accordance with the divine appointment. This peculiar privilege imposes on its possessor an emphatic duty, which it is for his happiness that he should carefully perform; although he must guard against the evil of excess in this, as well as in the performance of any other duty. It is to be observed also, that the mental faculties are of such a kind as to point out and induce the same duty, and the same gratification in the performance of that duty. What, for instance, does the possession of such a faculty as curiosity imply, if it be not that the gaining of knowledge is one very important purpose of the human animal's existence? And to what an immense amount of evil does the neglect of this duty lead! Whence arise the multiplied mischiefs of the gossip, and the prying busybodies of society, whose occupation seems to be to mind every one's business except their own? Whence can these evils come, but from the neglect of the duty to employ their mental powers in the investigation of God's works, above, beneath, around and within them?

Independently, then, of all use, the cultivation of the mind by the acquisition of knowledge, is the plain duty of man; and the inquiry for the "cui bono" of such acquisition is altogether a secondary question. It may be proper, and even advisable, for each student to inquire what is the best *kind* of knowledge for him to exercise his powers in the acquiring; but for a teacher, even of a primary school, to have any doubt, or to pretend to have any, about the utility of a good, sound, and extensive knowledge of the grammar of his mother tongue, would have appeared to the writer too far fetched to have been hinted at, if he had not been a witness to such an expression of doubt. The question, then, being asked, is a sufficient excuse for some attempt at a reply; and what follows shall be confined to this particular form of the question, "What is the use of a primary school teacher preparing himself for examination in the 'Analysis' of the structure of sentences in English?"

The general answer indicated in the preceding remarks would be, because it is a means of cultivating your mental powers generally. As to this particular mode of cultivating the mental faculties, we have not far to seek for evidence of its value. Mr. Lowe has lately condemned in no sparing manner the kind of knowledge by which the authorities at Oxford persist in educating the minds of the "upper ten thousands" of Englishmen, and plainly shows that these minds would be better employed in the study of their own language, than in spending so much time in the discipline by which a knowledge of Greek and Latin is obtained. If this be true with regard to high school training, how much more so for the teachers of primary schools.

But perhaps this argument of Mr. Lowe will not be satisfactory to those whose ideas I am combating, because their objection is not to ancient versus modern grammar, but to the study of grammar at all. "Since," say such reasoners, "we can speak so as to be understood, and can teach all that is required by the class of children whom it is our duty to teach, what is the use of troubling ourselves with any more study?" The general answer is still applicable; it is for your own happiness that your mind should be employed in the acquisition of knowledge, and on what more profitable subject can you employ it than on the study of the language, which, as descendants of British ancestors, we have inherited from our forefathers, and in the speaking and writing of which it should be our endeavour, if not to improve, at all events to use and transmit in as pure a state as we find it. But this general answer is to be supplemented by a particular one. It may be denied that a teacher can properly instruct even a junior class in a primary school, without a sound knowledge of the grammar of the English language; for even the classification of words required to be taught to a second class, will often be a puzzling task, to a teacher who has not made a systematic study of the uses and relations of words.

There is another objection, which the inquirers for the "cui bono" of study sometimes put forward, as valid against further investigation and research into this particular subject. They say they were taught the system of grammar in vogue some twenty or thirty years ago, and they find that their ideas are all set adrift by the requirements of more modern text books. Is there not an admission, in such an argument against further application to their books, which tells a tale of negligence during the past score of years? The multiplicity of text books, and their continued appearance, show that constant application is necessary on the part of the teacher to keep up with the advancement of the age in this, as in other respects, and in other professions. If it should be urged further that, when grammarians differ who shall settle the dispute, I would recommend a comparison of the various principles, and the selection of what is good from all quarters.

The teacher, when inclined to doubt about the "cui bono" of grammatical knowledge, should allow that his case is different from that of a non-professional. The non-professional may get on very well by means of his ability to speak and write his own language correctly and fluently, without any technical knowledge of its etymology or syntax. Will the most astute practical man, or the most vehement defender of ignorance, pretend that the teacher can possibly do his duty to his pupils without a store of such knowledge? The non-professional has no occasion to give reasons for the spelling, etymology, or syntax of the words and sentences. The teacher is liable to be inquired of every day, and must feel ashamed if he cannot give satisfactory answers; and though ignorance is sometimes defended by a resort to the plea of our language requiring a complete remodeling, that is but a poor excuse for one whose business it is to teach the language as it is, not as it should be.

He should remember, too, that a mere technical elementary knowledge of that in which he has to give instruction is insufficient. His mind should be accustomed to range over the whole extent of his subject, and bring illustrations *ad libitum* from all quarters. This idea is expressed in a circular issued from the office of the Council of Education, where it is said, "*a high authority has pronounced that a teacher requires to know more than he is called upon to teach, in order that he may teach with intelligence and with taste.*"

"But what," the objector may urge, "do I want with a knowledge of enlargements, and simple subjects, and attributes, and objects immediate and remote? Why should I be called upon to weary myself and my pupils with complements and completions and extensions in a sentence? Why is it necessary to know the difference between a clause and a phrase, or between one kind of clause and another? *What's the good* of being able to talk about adjectival, substantival, and adverbial clauses in this, that, and the other relation to the principal clauses, and to one another? Or to explain the various kinds of sentences as simple or combined, or complex or compound?" The general answer would again be relevant, but one more to the point is at hand, and it may be briefly put thus:—the "cui bono" of the Analysis of Sentences consists in its being an excellent discipline for the mind, and a good preparation for the study of logic; and further, it is only a carrying out of that investigation of our language which Syntax is said to treat of in every school grammar that was ever published, viz.: " the connexion and arrangement of words in sentences."

In conclusion, a little advice may not be out of place. Let no reader of this paper imagine that knowledge does not pay. Pay, that is, not in a pecuniary sense, but in that satisfaction which the possession of knowledge per se is more profitable than the acquisition of knowledge in general; and of this ever affords to the earnest student. It may be safely said, that no investment particular kind of knowledge, no teacher can have a superabundant supply.

Let every one, then, secure a copy of the best treatises on the Grammar and Analysis of the English language, and not rest satisfied till he has completely mastered the subject in all its details: no one will ever regret the labour. LITERAPHILUS.

CRITICISM OF THE SECOND BOOK.

To the Editor of the Australian Journal of Education,

SIR,—In replying to "Excelsior," I shall suppose myself in the position of an examinee at an Annual Examination, and that I find one of the exercises prescribed to be "Criticise the Second Book."

I should, of course, be thrown back upon my former study of the book preparatory to going up for examination, and my use of the book as a Class Book.

I should perhaps remember that the book is divided into four sections, the first consisting of words of one, the second of words of two, the third of words of three, and the fourth of words of four syllables. I might remember also, that this, the professed arrangement, is not quite carried out in its integrity, as I know the fourth section contains at least one word of five syllables, the third at least one of four syllables, the second one or more of more than two syllables. This, I should point out.

I might notice that there are lessons on religious subjects, and commend or condemn according to opinion. It has been condemned lately on this account, both for being too religious and not religious enough, by the same party in the colonial church.

Notice that in the lesson on the "Seasons" the remarks are not applicable to the colony; that as to the direction of the sun at noon, in the lesson on the four points of the sky, the word "south" should be "north."

Notice any grammatical errors, such as that in the lesson on the sheep, "wove" for "woven."

Notice the binding, printing, and anything in regard to the getting up of the book as a School Book; or any differences observable according as the book was printed in one place or another.

Perhaps less fault can be found with this book than any other in the series.

LITERAPHILUS.

To the Editors of the Australian Journal of Education.

GENTLEMEN,—Never having had lessons in drawing, and having no opportunity of knowing the exact position in which the pupils ought to sit for a drawing lesson, would you or some of your correspondents kindly answer the annexed questions.

I have, &c.,

Wollongong, 17th Feb., 1868. ILLAWARRA.

1. Should the position of the body be the same for drawing perpendicular, horizontal, and oblique lines?
2. What is the proper posture of the body?

To the Editor of the Australian Journal of Education.

Sir,—It is with great pleasure I hail the appearance of your "Monthly Newspaper," for it is the only channel by which I may be put right if I be wrong, and by which I may, if I be correct in my criticism, do good to those whose "bread is cast upon the same waters as mine."

Do not imagine for one moment that it is my desire to show my learning. My sole intention in writing this is merely to elicit the opinions of others, as, at this distance in the interior, I have no one to consult on the subject. Some of your readers may deem this a proof of presumption and ignorance on my part, but let them remember "*Nemo mortalium omnibus horis sapit.*"

Without further preamble, I intend to lay before you and the public some strictures on the English Grammar, by Dr. Morell.

With regard to his subdivision of Proper Nouns, I do not think he gives a very distinct idea of what he means by a Noun being "In transition state," as, "a Hercules." In my humble opinion it would be far plainer (more particularly to juveniles) to call such nouns "Proper," by eminence *(kat' exochēn,)* or by metonymy. These terms might require some explanation; but are they not more intelligible than "In transition state."

I wish, Sir, you, or some one of your readers would kindly point out to me what Dr. Morell means by his subdivision of "Class Names" into "sensible," as "knife" and "rational," as "conqueror." You may deem me *non compos mentis*, but I candidly confess I cannot understand his subdivision of "Class Names," being subdivision No. 1 of "Common Nouns." Under which does he reckon *pen* (the instrument with which I am writing this,) horse, sheep, pig, &c.

Touching the Adjective, he defines it as "a word added to a noun, in order to mark or distinguish it more accurately." Among his adjectives of distinction he classes *a*. Now, how does *a* distinguish one noun from another more than the noun or name does itself? whereas, according to his definition of an adjective, it ought to do so "more accurately." I think no better or plainer definition of an adjective can be given than that it is "a word added to a noun, or name of a person or thing, to show that that person or thing has some quality peculiar to it." For instance, if I say, "There is a boy," what quality does *a* denote? But if I say, "There is a *good* boy," the adjective "good" distinguishes him from others of his species. If *a* be an adjective at all (and I believe it is,) it would more properly come, according to Dr. Morell's classification, under the "definite numerical adjectives," being put for *one*, as the Frenchman speaking, would say, "Give me one book."

Dr. Morell, under the head of "Transitive Verbs," says, "Verbs which have two objects, &c.;" and he gives as an example, "John taught Charles geography." "Charles was taught geography by John." Now, with all due deference to the Dr., I do not think that "Charles" is governed by "taught," but by the preposition "*to*," understood. Such an ellipsis is very common after verbs of *giving or imparting*. "Give me that book," is a correct English idiom. Here "*to*" is understood before "me." We say, "Don't give it to him." So in the example quoted from Dr. Morell's Grammar, I think (and, if I am wrong, I will thank anyone to show me my error,) it should be "John taught *to* Charles geography." "Geography was taught to Charles by John," *i.e.*, the knowledge of geography was taught to Charles by John. "Show me the road," is another idiom of that kind. Here the same preposition is understood before "me." "*Quid plura?*"

Hoping these few words may elicit the opinions of others on the subject,

I remain,
Yours obediently,
R.P.

Warren,
8th Feb., 1868.

Messrs. Editors—Gentlemen,—Herein are some lines of doggrel which I hope are up to the Standard and which are not this time too 'erotic.' However wretched my performance, you will credit me with good intentions, my object being, as there are all kinds of dispositions among the readers of our periodical, to give some little relief to its terribly staid and oracular tone· I will strive to prevent the infant journal from adopting as its motto—

"I am Sir Oracle,
And when I ope my mouth let no dog bark."

SCRUBBER.

MATERIAL TO BE WORKED UP TO THE STANDARD.

A fair field is my aim, and no favour my rule,
Yet confess it I must, there's a pet in my school;
It is true, she was *five*, on last Michaelmas day,
And though loath to allow it, I surely must say,
She's as far now as ever from paying regard
To the ball frame, or board, to an object or card.
The Inspector will come, and that bright little face
In its sunburst of curls—Oh! 'twill be my disgrace.

When I strive to get answer to—'what Sam has on?'
Just like Will o'the Wisp in a moment she's gone,
For far down in that hole a glass bead she has spied,
And to seize the bright treasure away she has hied:
She will learn nought of lessons, nor make hook or link,
But instead she'll be peeping all day through the chink,
Keeping watch o'er the merry black crickets at play,
And the jumps of the green native lady so gay.

She is sensitive too, if I look but awry,
I can tell by the lip that a tear show'r is nigh,
But her sobs are so sad, and her grief is so deep,
And so piteous her look that the peace I must keep;
I must smile once again lest her life would be lost,
I must smooth down the braids that are pettishly tossed,
I must stay in my teaching to coax this strange child,
This fair being of impulse so winning though wild.

Then how grateful her glance, and how sweet is her smile,
How attentive the little one is for a while,
Ah! I fear she's too good for this mood to last long,
But I hope, for this once, my suspicions are wrong.
Now I gather from signs, in the quick twinkling eye,
That a bold stroke of mischief most surely is nigh;
"Now how's this? you bold boy, why the lesson retard?"
"I could'nt help it, please Sir, for she pinched me so hard."

SCRUBBER.

QUESTIONS FOR SOLUTION.

PROBLEM.—A ball, which fell from a height of 100 feet, rebounded $\frac{15}{16}$ of the height from which it fell, and continued in this way diminishing the height to which it rose until it came to rest. How far did it move? E. H.

EQUATION.—$\left.\begin{aligned}(x+y)\ (1+xy+x^2y+xy^2+x^2y^2)+xy&=371.\\ xy(x+y)\ (x+y+xy)\ (x+y+xy+x^2y+xy^2)&=13530.\end{aligned}\right\}$ E. H.

Find two numbers whose sum, when multiplied by the greater, will be equal to 100 times the less; but when multiplied by the less will produce 64 times the greater. J. O'R.

ANSWERS TO QUESTIONS IN No. 2.

Question 1.—Answered correctly by A. A., Excelsior, E.H., Keira, Literaphilus, Mead, Scrubber, W. and J. Hullick, and J. Sutherland.

Answered by A. A. :—

Let W = weight of the ball B, and then 32 lbs. × 26 = momentum of A, W × 12 = momentum of B, and (32 + W) × 20 = momentum of A + B after impact.

$$\therefore\ (32 + W) \times 20 = (32 \times 26) + (W \times 12)$$
$$\text{or } 640 + 20\,W = 832 + 12\,W$$
$$\therefore\ 8\,W = 192, \text{ consequently } W = 24 \text{ lbs.} = \text{weight required.}$$

Question 2.—Answered by A. A., Excelsior, J. Sheldon, Keira, W. and J. Hullick.

Answered by Excelsior :—

Let A and B be the respective strings.

Vibrations of equally stretched cords vary inversely as lengths.

∴ Vibrations of A are to vibrations of B, as 16 is to 4.

Vibrations of cords vary directly as the squares of the weights by which they are stretched.

$$\therefore\ 16 \times (12)^2 = 4 \text{ times square of required weight.}$$
$$\therefore\ \frac{16 \times (12)^2}{4} = \text{square of required weight.}$$
$$\therefore\ \sqrt{\frac{16 \times (12)^2}{4}} = \text{required weight.}$$
$$\frac{4 \times 12}{2} = \frac{48}{2} = 24 \text{ lbs.}$$

Question 3.—Answered by A. A., Excelsior, J. Donnelly, J. O'R., Keira, M. Lappan, Mead, Scrubber, W. H. Morris, W. and J. Hullick, W. L. B., Beta, and J. Sutherland.

Answered by Keira :—

The difference between the price of 1 pair of gloves and 1 pair of stockings, is to the difference between the whole cost price, and the price of the whole number of articles (37), at the rate per pair of the cheaper articles, as one article at the dearer rate is to the number of articles at the dearer rate. Therefore

(2s. 9½d. − 1s. 3½d.) : £3 4s. 3½d. − 37 (1s. 3½d.) :: 1 pair gloves : number of pairs, that is1s. 6d. : 16s. 6d. :: 1 pair of gloves : numbers of pairs of gloves ; therefore

$$\frac{(16s.\ 6d.) \times 1}{1s.\ 6d.} = 11 \text{ pairs of gloves.}$$
$$37 - 11 = 26 \text{ pairs of stockings.}$$

Question 4.—Answered by A. A., Keira, Mead, W. and J. Hullick, Beta, and E. H. Several correspondents have given correct proofs of *one case* of this proposition.

Question 5.—Answered by A. A., E. H., J. Sheldon, J. R., J. Donnelly, Keira, Literaphilus, Mudgee, Scrubber, W. H. Morris, W. and J. Hullick, and J. Sutherland. Others have given an algebraical solution.

Answered by W. H. Morris :—

Bought 50 yards for £2 2s. = $10\frac{2}{25}$d. per yard. Now if he gained the selling price of 2 yards, he really sold 48 yards for the same money as he gave for the 50 yards ; therefore the price of each sold at 48 for £2 2s. = 10½d. per yard. (2 yards at 10½d. = 1s. 9d. And 50 yards at 10½d. = 525 pence equals £2 3s. 9d., selling price. Find the difference between £2 3s. 9d. and £2 2s. = 1s. 9d.)

Question 6.—Owing to some indefiniteness in the data, this question admits of a variety of solutions. Correct answers have been supplied by Excelsior, E. H., J. R., Literaphilus, Mudgee, Scrubber. W. T., W. and J. Hullick, Beta, Philomath, and J. Sutherland.

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TEACHERS' BENEFIT SOCIETIES.

Every prudent and conscientious man, besides providing during his life for the maintenance of those dependent upon him, will not neglect the arrangements necessary for their support when, from any cause, the accustomed means of subsistence have been withdrawn or materially diminished. It behoves him to make provision against three separate contingencies and in three different ways: 1st, for the time when death shall have deprived his family of their stay; 2nd, for the period when old age or infirmity shall have incapacitated him from earning his usual income; and 3rd, for seasons of sickness or unusual distress involving largely augmented expenditure.

If Teachers desire to be regarded in their respective circles as men whose superior wisdom entitles them to respect and confidence, they will set an example to all around by promptly making the provisions now enumerated. We say nothing of other inducements—proper feeling, natural affection, and sense of right—which might operate upon their minds and influence their actions, believing that, as a body, Teachers are as susceptible to such motives as any class in the community. We have reason to believe, indeed, that very many Teachers have already provided for the pecuniary wants of their families in the event of their own death, by Life Assurance or by some other means. To those who have not yet made such provision, we would earnestly point out the necessity for avoiding further delay. It needs not that we should urge upon them the various considerations which should impel them to prompt action in this matter. Their own feelings will sufficiently guard them against allowing those who are nearest and dearest to them to be hereafter dependent upon the cold charity of the world for relief, or upon their own unassisted labour for support.

The subject of a provision for old age has already been mooted by us in an article on the Superannuation of Teachers. Judging from the complete silence of Teachers on the point, it may be inferred that they do not realize its importance, or that they are too apathetic to move in their own interests. Not a single expression of the opinions, feelings, or desires of the Teaching body in reference to this question, has yet reached the conductors of this Journal.

With regard to the third provision before mentioned, it may be stated that in all cases of special distress, Teachers have to bear their burdens alone. Should a Teacher be overtaken be protracted sickness and his expenses be thereby increased, whily his income is at the same time diminished, what is his resource? Unless he should chance to have wealthy friends, the only result must be indebtedness with its long train of evils. At first there is a struggle to economise. The luxuries and even the necessaries required for a convalescent are foregone, and thus an attempt is made to reduce the family expenditure. But the inutility of the endeavour is speedily demonstrated to the sufferer, and the conviction of its utter hopelessness benumbs his exertions; and he is left, deprived of self-respect and the courage to renew the attempt, in a state of chronic pecuniary embarrassment. Thus for want of a little timely assistance, many a worthy man is plunged into deep distress, his mind is distracted with ceaseless cares, and his teaching loses its power and effectiveness. In proportion as he falls, the teaching profession itself sinks in the estimation of his less thoughtful neighbours, and his misfortunes become, innocently enough on his part, cause of reproach to his brethren.

The foregoing is no fancy sketch. The known instances in which such a fate has befallen teachers are sufficiently numerous, but there are many others in which all the suffering has been borne in silence. The causes may differ—disease, death, floods, droughts, failure of crops; but the result has been the same—increase of expenditure, diminutions of means, debt. Now, it is evident that if there were some source from which assistance could be obtained either in the shape of a loan to be repaid without interest, or of a gift, the pecuniary distress and its consequences could be greatly mitigated or altogether avoided. And from what source could such aid be obtained with so little feeling of pecuniary obligation—itself revolting to sensitive minds—and so little sacrifice of self-respect, as from a Benefit Society, to which the applicant had subscribed, and in which he was, so to speak, a shareholder? In no way could a Teacher more consistently or more extensively contribute to the well-being of his brethren, relieve their distresses, assuage their griefs, and promote their comfort. And in no other way could he more effectually aid in raising and supporting the credit of the teaching profession.

We feel that our readers will agree with us in the opinion that this matter is not one that requires lengthened advocacy. Both the hearts and minds of Teachers will be easily persuaded in so good a cause. We proceed therefore to indicate briefly what in our view should be the principal objects of such a Benefit Society, and the organization by which it could be managed.

The main object would be to afford relief or assistance to subscribing Teachers or their surviving relatives, in accordance with a scale to be determined upon, under each of the following circumstances :—

GRANTS.

1. In the event of protracted sickness of a Teacher, an allowance per week or per month.

2. In the event of his death, an allowance to his widow or next of kin.

3. In the case of absolute losses by fire or floods, an allowance to assist in replacing the articles destroyed.

LOANS.

4. In the event of sickness in a teacher's family, a loan repayable in small instalments without interest.

5. In the case of reduction of income by reason of providential visitations, a loan on the same terms.

6. For any other purpose, a loan repayable in small instalments at a low rate of interest.

It is probable that opinions would vary greatly as to the propriety of having one general society with branches in various districts, or different societies in the localities able to sustain them. Both plans have advantages, but our own view would on the whole favour the first-named. If the central administration were established in Sydney and a reasonable amount of power were delegated to local committees in all the more populous neighbourhoods, there would be little difficulty in carrying out the objects of the Society with promptitude and effect.

The rules of some of the Benefit Societies already existing in the colony would furnish guides in drawing up the regulations of the projected Teachers' Society. There would be no need for secrecy, and it would be unnecessary for teachers to be present at meetings. The expense of travelling and the inconvenience of absence from home would be alike avoided. The regular payment of subscriptions and perhaps attendance at the Annual Meeting in his neighbourhood, would probably be all the trouble a teacher would have to encounter, unless when called upon in his turn to serve in the local Committee.

GRATITUDE.

A VERY poor and aged man, busied in planting and grafting an apple tree, was rudely interrupted by this interrogation: "Why do you plant trees, who cannot hope to eat the fruit of them?" He raised himself up, and leaning upon his spade, replied, "Some one planted trees for me before I was born, and I have eaten the fruit. I now plant for others, that the memorial of my gratitude may exist when I am dead and gone."

ANALYSIS OF SENTENCES.

(*Continued from No.* 3.)

THE COMBINED SENTENCE.

67. There are four relations in which the clauses of a Combined Sentence may stand to each other.

I. That in which two or more statements are coupled together.

II. That in which two or more statements are opposed to each other.

III. That in which one statement is accounted for by means of another.

IV. That in which one statement is an inference or deduction from another.

68. The first of these is called the *Copulative Relation*, as—

He passed the boundary, and then halted.

The second is known as the *Adversative Relation*, as—

Carlyle is original; but his meaning is often obscure.

The third is described as the *Causative Relation*, or the relation of cause and effect, as—

I complied, because he asked me.

The fourth may be termed the *Illative Relation*, as—

His malady was fatal, consequently he could not recover.

69. The Copulative Relation implies that clause is simply added to clause; but this may occur in two varying forms.

I. When the clauses conjoined are of equal force, as—

The rain descended, and the floods came.

II. When a culmination of the effect is sought, as—

The youth awakens from childhood; young manhood regards the pursuits of youth as visionary; old age looks on the struggles of life as a feverish dream; and the last sleep is the final awakening.

or,

Pride breakfasted with plenty, dined with poverty, and supped with infamy.

70. We find sentences in which, from the suppression of conjunctions, the copulative relation is less apparent, though not the less real. An example of this will be seen in the following:—

We rose at three o'clock in the morning, breakfasted at four, started at five, travelled fifty miles, halted at sunset, and camped in the forest for the night.

71. The Conjunctions chiefly employed in this connection are, *and*, *also*, *likewise*, *as well as*, *moreover*, *either*, *neither*.

72. The Adversative Relation places the clauses in opposition to each other. This may occur in two ways.

I. When there is a direct negative implied, as—

I asked a favour; but he would not grant it.

II. When the second clause merely limits or qualifies the first, as—

He granted my request; but it was done ungraciously.

73. The words chiefly employed for this relation are, *but*, *not*, *nevertheless*, *on the other hand*, *though*, *for*.

74. In the *Causative Relation*, we find one clause accounting for what is stated to have happened in the other. This may be exhibited in the following manner:—

Batavia is unhealthy; because it lies near a marsh.

The ship was abandoned; for she was rapidly sinking.

75. The particles chiefly employed in this relation are, *because*, *thereupon*, on *that account*, *accordingly*.

76. In the Illative Relation we find one clause operating as a deduction from the other, as—

There was nothing to dispute about, therefore the meeting parted in harmony.

Or, to put this in another form—

A is equal to B.
And C is also equal to B.
Therefore A is equal to C.

The particles chiefly employed in this relation are *hence*, *consequently*, *therefore*, of *course*, *thereupon*, *undoubtedly*.

77. Combined Sentences may be analysed after the following method. On examining the form, it will be seen that there is a division for the purpose of shewing the relation of clause to clause. In Combined, Complex, and Compound Sentences this arrangement is indispensable; if omitted, the analysis loses more than half its value. The detailed analysis of the several clauses is the same as that shewn under the Simple Sentence.

a. Reading maketh a full man, conference a ready man, and writing an exact man.

b. The Caucasus is little known; but it contains many beautiful regions.

c. The speculation failed, because it was ill-devised.

d. He first promised to join the enterprise, and a consultation was held to arrange preliminaries, but he afterwards withdrew, because they would not unconditionally adopt his views.

e. The cattle died throughout the district; therefore dairy farming was stopped temporarily.

Distinguishing Letters.	CLAUSES.	Names of Clauses, and their Relations to each other.	Connectives.	SUBJECT.		PREDICATE.					Remarks.
							Completion.				
				Enlargement of Subject.	Simple Subject.	Simple Predicate.	Object.	Attribute.	Extension of Predicate.	Kind of Extension.	
A	Reading maketh a full man;	Principal or Direct Clause, co-ord. to *B.* and *C.*	...	...	Reading	maketh	man	a full	...	...	...
B.	Conference (maketh) a ready man;	Prin. Clause, co-ord. to *A.* and *C.* in the Cop. Rela.	and [understood]	...	Conference	(maketh)	man	a ready	...	...	...
C.	And writing (maketh) an exact man.	Prin. Clause, co-ord. to *A.* and *B.*, Cop. Relation.	and	...	Writing	(maketh)	man	an exact	...	...	...
D.	The Caucasus is little known;	Prin. Clause, co-ord. to *E.*	...	the	Caucasus	is known	...	...	little	Adjunct of manner.	...
E	But it contains many beautiful regions.	Prin. Clause, co-ord. to *D.*, Adversative Relation.	but	...	it	contains	regions	many beautiful	...	...	...
F	The speculation failed;	Prin. Clause, co-ord. to *G.*,	...	the	Speculation	failed	...	...	...	...	...
G.	Because it was ill devised.	Prin. Clause, co-ord. to *F.*, Causative Relation.	because	...	it	was devised	...	...	ill	Adjunct of manner.	...
H.	He first promised to join the enterprise,	Prin. Clause, co-ord. to *I. K. O.*	...	...	He	promised to join	enterprise	the	first	Adjunct of time.	...
I.	And a consultation was held to arrange preliminaries;	Prin. Clause, co-ord. to *H. K. O.*, Cop. Relation to *H.*	and	a	consultation	was held	...	...	to arrange preliminaries	Adjunct of purpose.	...
K.	But he afterwards withdrew,	Prin. Clause, co-ord. to *H. I. O.*, Adv. Rel to *H.* and *I.*	but	...	he	withdrew	...	...	afterwards	Adjunct of time.	...
O.	Because they would not unconditionally adopt his views.	Prin. Clause, co-ord to *H. I. K.*, Caus. Relation to *K.*	because	...	they	would not adopt	views	his	unconditionally	Adjunct of manner.	...
S.	The cattle died throughout the district;	Prin. clause, co-ord. to *Z.*		the	cattle	died	...	...	throughout the district	Adjunct of place.	...
Z.	Therefore dairy farming was stopped temporarily.	Prin. clause, co-ord. to *S.*, Illative Relation.	therefore	dairy	farming	was stopped	...	...	temporarily	Adjunct of time.	...

Examples for Analysis.

The air was temperate; the sky was serene; the silver orb of the moon was reflected from the waters; and all nature was silent.

The first ingredient in conversation is truth; the next is good sense; the third is good humour; and the fourth, intelligence.

We all of us complain of the shortness of time; but yet do not employ it well.

Admonish thy friend; perhaps he has not offended.

To pursue trifles is the lot of humanity; but whether we bustle in pantomime, strut at a coronation, or harangue in a senate house, our efforts will end in disappointment.

I said contusion of the head, not confusion of the head; you mistook my answer.

She listens attentively, replies clearly, converses sensibly, does her duty admirably and hence no doubt will give satisfaction.

The continued multiplication of books, not only distracts choice, but disappoints inquiry.

The deputation presented itself, but could not obtain an audience, for the senate was pre-engaged.

Earthquakes were of constant occurrence, and consequently the city was abandoned.

In one of the Northern harbours, lay a large and powerful steamship; it was nearly ready for sea, but day after day did the artificers visit the vessel, and week after week was its departure deferred, because the compass could not be made to act satisfactorily; at last however all was rectified, or appeared to be so, and the magnificent fabric started on her first voyage; but it proved her last, for she was never more heard of.

I advocate this measure, because it is highly opportune; because the voice of the nation calls for it; because our resources admit of its successful working; and because, though a minority may murmur, yet it will injure very few, and benefit nearly all.

The way was long; the wind was cold;
The minstrel was infirm and old;
His withered cheek and tresses gray
Seemed to have known a better day.

Be still sad heart and cease repining;
Behind the clouds is the sun still shining;
Thy lot is the common lot of all;
Into each life some rain must fall;
Some days must be dark and dreary.

Each spoke words of high disdain
And insult to his heart's best brother;
They parted ne'er to meet again;
But never either found another
To free the hollow heart from paining;
They stood aloof, the scars remaining.

The night is chill; the forest bare;
Is it the wind that moaneth bleak?
There is not wind enough in the air
To move away the ringlet curl
From the lovely lady's cheek;
There is not wind enough to twirl
That one red leaf ————

About a stone cast from the wall
A sluice with blackened waters slept;
And o'er it many round and small
The clustered marish mosses crept;
Hard by, a poplar shook alway,
All silver green with gnarled bark;
For leagues, no other tree did mark
The level waste the rounding gray.

Long since, beneath Dunfermline's nave
King Alexander fills his grave—
(Our Lady give him rest)
Yet still the nightly spear and shield
The elfin warrior doth wield
Upon the brown hill's breast;
And many a knight hath proved his chance
In the charmed ring to break a lance;
But all have foully sped—save two;
And they were Wallace wight and Gilbert Hay.

Thy vineyard prospers well; this sunny site
Favors the vigorous growing of thy trees;
The shoots are strong; the grapes hang thick and luscious;
Thy vintage will be good; I like the spot exceedingly;
It lies adjoining to my palace gardens.

The moor without is brown and bare;
The space within is green and fair;
Our children know the spot;
For there the choicest wild flowers grow.

The glories of our birth and state
Are shadows, not substantial things;
There is no armour against fate;
Death lays his icy hand on kings;
                    Sceptre and crown
                    Must tumble down,
And in the dust be equal made
With the poor crooked scythe and spade.

This man is freed from servile bands
Of hope to rise, or fear to fall;
Lord of himself though not of lands;
And having nothing, yet hath all.

Shepherds all and maidens fair
Fold your flocks up; for the air
'Gins to thicken; and the Sun
Already his great course hath run.

The bird of dawn
Did never rouse this cottager from sleep
With startling summons; not for his delight
The vernal cuckoo shouted; not for him
Murmured the labouring bee;
Yet by the solace of his own pure thoughts
Upheld, he duteously pursued the round
Of rural labours; the steep mountain side
Ascended with his staff and faithful dog;
The plough he guided, and the scythe he swayed,
And the ripe corn before his sickle fell
Among the jocund reapers.

The Moon is up and yet it is not night;
Sunset divides the sky with her; a sea
Of glory streams along the Alpine height
Of blue Friuli's Mountains; heaven is free
From clouds, but of all colour seems to be,
Melted into one vast iris of the west.

The poet's lay grows sweeter in the shade of wavy woods
Or lulling lapse of crystal stream beside;
Dim umbrage lends to philosophic lore
Severer thought; and meditation leads
Her pupil Wisdom to the green resort
Of solemn silence.

Answers to the following should be put in writing.

In what respects does the Combined Sentence differ from those that are Complex and Compound?

What can be said in favour of having a distinct classification for the Combined Sentence?

What advantages is the Combined Sentence supposed to give in composition?

Describe what is called the Copulative Relation.

Describe the Adversative Relation.

Describe the Causative Relation.

What words are used in connecting the clauses in the case of the above Relations?

Construct three sentences exhibiting the use of the Copulative Relation.

Construct three sentences, exhibiting the same relation, in the culminating and descending forms.

Construct three sentences shewing the use of the Adversative Relation.

Construct three sentences shewing the use of the Causative Relation.

Construct six sentences shewing the three Relations employed in each sentence.

NOTE.—*In our last issue, in the Examples for Analysis, the second poetical quotation was inadvertently inserted for a Simple Sentence.*

GRAMMAR.

PARSING.

FOR the benefit of such of our readers as may require guidance in the methods of Parsing, most suitable for an Examination Paper, we submit the following :—

> " An inadvertent step my crush the snail,
> That crawls at evening in the public path;
> But he, that has humanity, forewarned,
> Will step aside and let the reptile live."

An	The indefinite article, prefixed to the noun " step."
inadvertent	An adjective, qualifying the noun " step."
step	A common noun, singular, neuter, nom. to the verb " may crush."
may	An auxiliary verb, third person singular, present, indicative; agreeing with its nom. " step."
crush	A transitive verb in the infinitive mood; governed by the auxiliary " may "—sign omitted.
may crush	A trans. verb, third person singular, pres., potent.; agreeing with its nom. " step " in no. and pers.
the	The definite article, prefixed to the noun " snail."
snail	A common noun, singular, mas. and fem., objective; governed by " may crush."
that	A relative pronoun, third pers. sing., neuter, nom. to crawls; agreeing with its correlative " snail " in person and number.
crawls	An intrans. verb, third pers. sing., pres., indic.; agreeing with its nom. "that" in pers. and no.
at	A preposition; governing the noun " evening " in the objective case.
evening	A common noun, sing., neut., object.; governed by the preposition " at."
in	A preposition; governing the noun " path " in the objective case.

the	The definite article, prefixed to the noun "path."
public	An adjective, qualifying the noun "path."
path	A common noun, sing., neut., object.; governed by the preposition "in."
but	A conjunction, joining clauses.
he	A third pers. pronoun, sing., mas., nom. to the verb "will step."
that	A relative pronoun, third pers. sing., mas., nom. to "has;" agreeing with its correlative "he" in person, number, and gender.
has	A transitive verb, third pers. sing., pres., indic.; agreeing with its nom. "that."
humanity	A common noun, third pers. sing., neut., object.; governed by the transitive verb "has."
forewarned	The perf. part. of the verb to forewarn; governed by the part. "being"—understood.
will	An auxiliary verb, third pers. sing., pres., indic.; agreeing with its nom. "he."
step	An intransitive verb in the infinitive mood.
will step	An intrans. verb, third pers. sing., first future, indica.; agreeing with its nom. "he."
aside	An adverb, modifying the verb "will step."
and	A conjunction, joining clauses.
let	A transitive verb in the infinitive mood; governed by "will"—understood.
the	The definite article, prefixed to "reptile."
reptile	A common noun, third pers. sing., mas. or fem., object.; governed by "let."
live.	An intransitive verb, infinitive mood; governed by "let."

NOTE 1.—Abbreviations are admissible, when economy of time is an object; but they must be intelligible, that is, contain so much of the whole word as will admit of being easily apprehended, and leave no doubt of the writer's meaning.

NOTE 2.—We believe the above is in strict accordance with the mode of parsing recommended by the Council of Education, and that pursued in the Training School.

[*We have considered it desirable, in order to draw attention to various methods of teaching and to evoke discussion, to afford contributors opportunities of stating their views on such points; but it should be understood that the Conductors of this Journal do not necessarily identify themselves with the opinions so expressed.*]

A SYSTEM OF TEACHING ARITHMETIC.

[*Continued from Page* 75.]

SUBTRACTION.—While children were being taught *Addition* they must have acquired (if properly instructed) a knowledge of the more elementary part of *Subtraction*, and therefore it is unnecessary to dwell on this part of the subject. It is essential, however, that not only the terms used, but the meanings of the names applied to every part of the work, in this, as well as every other part of arithmetic, should be clearly understood; because it will enable the teacher to instruct his pupils in a systematic manner, with much greater facility, than he otherwise could do. Let us then suppose a boy has a number of marbles in his pocket, and he puts some more into it with them; this is called *addition*, or *adding to* the number he had, before he put the others in. But if the boy take any out of his pocket, this is called *subtraction*, or taking *from* the quantity he had. The meaning of the word *Subtraction*, as understood in arithmetic, is the mode of reckoning, or calculating, how many are left after a certain number or quantity is taken away. Suppose the boy had in his pocket 34, and he takes out 28 to give to another boy, he may feel anxious to know how many he has left.

In order to make this calculation in accordance with the rules of arithmetic, he must observe, 1st, That the greater number must be placed over the less, taking care to keep the *units* under the units, the *tens* under the tens, &c. 2nd, That the greater number is called the *Minuend*, and the less number the *Subtrahend*, and that he difference between these two, is called the remainder, or what is left, when the number indicated by the substrahend is taken from the minuend, thus: 34 minuend
28 subtrahend
—
6 remainder

In order to perform the operation of subtraction, when a digit in the subtrahend is greater than its corresponding digit in the minuend, the pupil should be instructed to add *ten* to the digit in the minuend. In this instance the number will then be equal to 30 and 14; the 8 can then be readily taken from the 14, and 6 will be left. But 30 and 14 are greater than 34. Granted; but in order to keep up the equality between the minuend and subtrahend, we also *now* add ten to the subtrahend, which renders this number equal to 28 and 10, or in other words 38. The reason why we now say carry one to the 2, is, that 1 added to the *tens* is the same as ten added to the units; it will now make 3, and the 3 taken from 3 leave no remainder. This method is founded on the mathematical axiom, "If equals be added to unequals, the wholes are unequal, &c." It should be well understood, that if we borrowed ten, and added them to the unit in the minuend, we did the same in the subtrahend, for to *prefix* a number to a unit is the same as to add *ten* times that number. We prefixed 1 to the 8, that was equal to adding ten, because ten times one are ten. And this one being the number of tens belonging to the 8, we added 1 to the 2 in the number 28, which made it 38, or, in the language to be used to a child, carry 1 to 2 makes 3, then 3 from 3 leave nothing. The whole remainder is, therefore, only 6. It is incorrect to tell a child we borrow *one* and put it to the top digit, and then pay it back to next digit in the suptrahend. But one may enquire, why add 10 to each number? May we not as well say 11, 14, or 18? The reason is this: in simple numbers we repeat by *tens*, as we do in farthings by 4, or in pence by 12, or in shillings by 20.

It matters not how many digits are in the sum to be subtracted, the method to be pursued is exactly the same. Let us take, *e.g.*, 4027−235. We place the 4027 as the minuend, and the 235 as the subtrahend. Any intelligent child can take 5 from 7; he knows at a glance 2 will remain. He did not add 10 to the 7, therefore he does not add ten to the subtrahend. The 5 and the 7 are done with, and he proceeds with the 3—2 as if these were the units in the two numbers. He finds he cannot take 3 from a place where there are only 2. Let it be granted that 10 may be added to the 2, then he finds he has 12, and then by taking 3 he finds 9 will be left. Now, because he added 10 to the minuend in this place also, he must do the same to the digit in the subtrahend, *after* the difference was taken. The number in the subtrahend still to be disposed of, would then be 23+10, or 1 ten added to the 20, in other words, 1 carried to the 2 made 3; then it is required to take this 3 from 0, not ten, but a cypher, which indicates nothing; it cannot be done; but continuing the same method, as before, we add 10 to the cypher, which make it ten; then 3 taken from 10 leave 7. Now, because we added 10 to the digit over the 3, we have to add 10 to the 3 also, which make it 13, but the 3 (the unit now) and the 2 being done with, we have only the 1 and the 4 to deal with. Children, in such cases as this, are very apt to fall into the error of adding this 1 to the 4 in the minuend, instead of subtracting it. The numbers at this stage stand as 40+10=50,−3+10=13, leave 37; or, in more simple language, the 1 carried from the preceding digits, and taken from the 4 in the minuend, leaves 3, thus giving a total remainder of 3792.

MULTIPLICATION is a short method of performing many additions where the numbers to be added are of equal value. Suppose we desired to know the sum of five sevens. By Addition, the process, with a child, would be, 7+7=14, 14+7=21, 21+7=28, 28+7=35. Instead of this, he can say, from a knowledge of the *Multiplication Tables* imprinted on the memory, 5 times 7=35. It is evident that a correct knowledge of the Multiplication Tables, not only, greatly facilitates arithmetical computations, but is indispensable in every branch of the science beyond Addition and Subtraction. So soon as the value of numbers is understood, children should be set to commit these Tables to memory. Care, however, should be taken that they understand them as they proceed. The labour would be divested of much of the drudgery were the Multiplication Tables made the basis for easy problems in *Mental* Arithmetic. Suppose they are learning "3 times." We ask, 3 times 4, how many? Twelve. How many fours in 12? Three. How many threes in 12? Four. Suppose there were 8 boys in a class, and I gave each 3 lollies, how many given to the whole of them? Twenty-four; because 3 times 8 are 24. Suppose you were one of 5 boys among whom

I divided 35 marbles, how many would be your share of them? Seven; because 7 times 5 are 35. Are you sure you ought not to have 8? Yes; because 5 times 8 would be 40; and that was not the number divided.

When the table for "4 times" is thoroughly fixed in the memory, the Farthings Table will be readily understood without the labour of getting it by rote. How many farthings in a penny? Four. Well; then how many pence in 20 farthings? Five. How do you know that there are 5 pence in 20 farthings? Because 5 times 4 are 20. How many farthings in 9 pence? Thirty-six. How can you prove that? By showing that 4 times 9 are 36. As the children progress with their tables they are enabled to turn them to the purposes of Division as well as Multiplication. Thus, 7 times 8=56. How many *sevens* in 56? Eight, because 7 times 8 are 56. How many *eights* in 56? Seven. How often is 9 contained in 54? Six times, because 9 times 6 are 54. What are the component parts of 54—(i.e., the numbers multiplied together to make 54)? Nine multiplied by 6, or 6 multiplied by 9. What are the component parts of 29? Seven multiplied by four, and one over; because 4 times 7 are 28, and 1 more will make 29. How many sevens in 59? Eight, and 3 over. How do you know? Because 7 times 8 are 56: as this number is 3 less than 59, the 56, with 3 added, will just make 59. When "12 times" are thoroughly fixed in the memory, the drudgery of learning the Pence Table is rendered unnecessary; because by a little exercise of the understanding, the child can readily tell how many shillings in any number of pence, *e.g.*, How many shillings in 48 pence? Four shillings; because there are 12 pence in one shilling, and there are 4 twelves in 48 ∴ 48 pence are four shillings. In 136 pence, how many shillings? Eleven shillings and four pence; because there are 11 twelves in 136 and 4 over. These 4 are 4 pence ∴ 136 pence = 11 shillings and 4 pence. How many pence in 7 shillings and 6 pence? Ninety; because 7 times 12 are 84; if to this number be added 6 pence, it will be 90 ∴ in 7 shillings and 6 pence there are 90 pence. The memory will be greatly refreshed by such exercises as these occasionally:—Five yards of print, at 6 pence per yard? 2 shillings and 6 pence; because 5 times 6 are 30; and the price being in pence, the 30 are 30 pence = 2 shillings and 6 pence. Nine loaves of bread, at 3 pence per loaf? 2 shillings and 3 pence; because 9 times 3 are 27 = 2 shillings and 6 pence.

(To be continued.)

ON TEACHING AS A PROFESSION.*

THE subject which I have chosen for my address to-day is our professional position in the country. This subject has the disad-

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* Address delivered at Stirling to the Scottish Central Schoolmasters' Association. By JAMES DONALDSON, LL.D., Rector of the High School. April 27, 1867.

vantage of being commonplace enough, but however commonplace it may be, the matter is of too vital importance to all of us, and to the best interests of society, to be treated at any time with indifference. And especially at the present time, when there is much educational excitement, and educational projects are ventilating on every hand, it cannot be too widely or too thoroughly discussed.

We have to start from the mournful fact, recognised and deplored by all of us, that the teaching profession is not one that of itself gains much respect for its members, and that the attractions which it presents are not very inviting. But if the evil to be deplored were merely that a certain body of men do not mingle in select society, and do not receive the honours due to them from the public, I should not have thought of taking up the subject at all. A remedy of course should be attempted for every evil, but when the evil is one merely inflicted by the world's opinion, it is of comparatively small importance. The world, in the sense in which the term is used, is always small, and its opinion not worth much. Providence has generally supplied ample compensation to those who lose the world's honours in the performance of substantial work. And in the case of the educator, his work and his position rise in estimation in proportion as the person estimating is capable of understanding the value of what is really good and important.

I have a different object altogether. I believe that the elevation of the teaching profession means the spread of sound education. I believe that it is of primary importance to the well-being of the community that the profession should be elevated, and I believe that all the measures which I propose for the elevation of the profession are absolutely essential to the thorough education of the people. The schoolmaster is the school. In the work of education, the man who educates is everything. And I conceive that our people will not be properly educated until the public come not merely to assent to this truth in an indifferent way, but to realise it as a great truth, and to perceive the many applications which it admits of.

Whatever may be the reason why the teaching profession is held so low, it certainly cannot be found in the nature of the work which is accomplished. Let me compare it with what are called the learned professions, medicine, law, theology. In such a comparison, we have to look out for some standard by which we may measure them. Now I think it will be granted that a profession rises in dignity in proportion to the influence which it exerts on the well-being of mankind. By well-being I include the physical as well as the mental or spiritual. Both interact on each other. Physical well-being is calculated to promote spiritual, as it frees a man from many temptations, and gives him power for the work he has to do on earth. And it is not possible to conceive spiritual well-being without its affecting or rather including physical well-being to a large extent. For all those virtues which relate to the appetites and passions, temperance, self-restraint, contentment, and such like, are powerful agents in the creation of physical welfare. Yet, at the same time, I think that it will be allowed there may be differences of dignity in the various operations, that the man who promotes the spiritual well-being is employed in higher work than the man who promotes the physical, essential as that may be. And we may estimate the importance of the work done further by considering in what way it tends to promote and elevate the whole man, and to what extent.

With these principles then we turn to the medical profession, and we look out for what we may call its special purpose. Can we, in one word, say what it aims at; and if we can, will our standard help us to estimate the relative importance of the aim? Now I do not think any one will accuse me of going far wrong if I define the aim of the medical profession to be the cure of diseases. Its aim is not to promote the physical well-being of man directly. It waits until some great wrong has taken place in the frame, and then it steps in and attempts to overthrow the obstruction, and send man again on his ordinary course. It does not, properly speaking, cover the whole of a man's physical career, but when that physical career swerves from the right path, then it comes forward to turn it again into the right path. Now for my part I do not think that this aim is in itself so high an aim, nor is the healing work so high a work, as keeping the body out of disease. A higher art, in every way a nobler art, would be the maintenance of the body in sound health. Medical men have contributed much to a knowledge of those laws which are the conditions of health, and for this they deserve the gratitude of mankind; but as the medical profession is at present constituted, this work of prevention does not lie in their way as a profession. The nobler part of the work really lies in the hands of the teachers, though the work is very imperfectly done, for it is their business to inculcate on their pupils those laws of health which will keep them out of the hands of the doctor.

Nor has the medical man much to boast of in regard to the certainty of his operations. The subject of his investigation is perhaps the most difficult of all the subjects submitted to man's consideration. He has to experiment in the dark, he can see the most vital parts only after they have lost their vitality, and he can ascertain most of the results of experiments on living beings, only when life has ceased to exist, and the conditions are entirely altered. Hence it is that, while skilful medical men are well able to recognise most diseases, their methods of cure are purely empirical, and they will themselves be among the first to confess that their skill is human, and that they work at a peradventure.

Let us look now for a moment at law. What should we say is the aim or purpose of the legal profession? We must here divide its aim according as lawyers have to deal with criminal or civil cases. The aim of the legal profession then, as far as criminal cases are concerned, is to put down scoundrels. It deals only with those who break, or are supposed to break, the laws of their country. In other words, it deals with some of the mental diseases of the lowest class of people. But it does not go the length to which medicine goes in dealing with bodies. The lawyer does not grapple with the mental disease. He does not, professionally at least, attempt to elevate the scoundrel. He merely puts an extinguisher on him for a time; but the scoundrel may remain a scoundrel, nay, may be a worse scoundrel than before. In civil cases it is somewhat more difficult to give in one word the aim of the legal profession. But here also for the most part it is to prevent the action of the violent passions of one class from doing injury to other men. The aim is not to change the mind of the grasping or quarrelsome litigant, but to prevent him doing harm. And the character of the work done may be fairly gathered from the advice given by sensible lawyers, that he is the wisest man who has nothing to do with law. I have in these remarks made no mention of what perhaps should be stated as the real aim of the legal profession, to protect the great mass of the community from the depredations of scoundrels and rogues. This is a grand result. But as I am speaking of professional activity, and as this is a purely negative result, it does not come exactly within my range. Positively lawyers have to deal with the lowest portions of the community for the most part, they have to deal with the lowest phases of human life; and they have to deal with these, not in the way of radical reformation, but of temporary forcible repression of outward manifestation.

(To be continued.)

INTELLIGENCE.

VICTORIA.—REPORT OF THE ROYAL COMMISSION APPOINTED TO ENQUIRE INTO AND REPORT UPON THE OPERATION OF THE SYSTEM OF PUBLIC EDUCATION.—(*Continued from page* 54.)

Nature and quality of Public Elementary Education.

1.—RELIGIOUS AND SECULAR INSTRUCTION.

The question of the obligation or expediency of communicating religious instruction in the public schools, and the claims of the clergy of the various sects to direct or superintend such instruction, have contributed in Victoria, as in other countries, more than all the other causes combined, to disturb opinion, and to raise practical obstructions in the way of public instruction. It was the design of the Legislature, in enacting the present law, to allay dissensions, and to remove these obstacles, by uniting the Denominational and National Boards under one common system of management.

The Commission have been unable to discover that this design had been attended with success.

The Bishop of the Roman Catholic Church claims, by virtue of his office, the right to have the exclusive control of the education of the young, and, as a consequence, a demand is made that the clergy of this denomination shall have the appointment of the teachers and committees of their schools. The views of the Protestant Episcopal denomination upon this subject are marked by ambiguity. The Church of England Bishop of Melbourne says—

"The clergy, as a body—all ministers of religion indeed—are especially bound, if they are men of God, if they are really faithful men and in earnest in their work, to attend to the education of the young. It is just as much a part of their duty to take pains that the young should be properly instructed, as that the whole people should be gathered into the Church and trained up in religious knowledge and practice ; and it appears to me that the State here has been too jealous of the clergy and ministers of religion."

The Church of England Dean of Melbourne says—

"I have considered it a duty to forward education to the utmost of my power, conceiving it to be bound up with religious teaching. I have felt that it was the duty of the State to see that there was religious instruction given, but the claiming of it as a right belonging to clergymen has never precisely presented itself to my mind. I have always been in the habit of looking at a clergyman's duties rather than his rights. I need not hesitate to say that I have always considered the claims made by the Church of Rome over education as indefensible ; but, at the same time, I am not prepared to say that it is not, in a certain sense, the right of the clergy to superintend education and I am not prepared to say that it is. I can only repeat that I have always viewed it in a different aspect."

The other Protestant denominations do not seem to claim for their clergy any special right to superintend the education of the young. It is admitted by almost every one of the witnesses—clerical as well as lay—that the teacher, and not the clergyman, is the person by whom religious instruction can alone be effectually given in the public school. One witness, the Rev. Mr. M'Donald, thinks that the clergy should not teach religion in the schools, many of them being unable to teach ; another witness, the Rev. Mr. Symons, observes, that the visits of the clergyman to the schools for the purpose of teaching religion may have a prejudicial effect upon the minds of the children, by leading them to regard religion as something distinct from and added to ordinary education, rather than a part of it ; and a third witness, the Rev. Mr. Waugh, states that a great many clergymen have no taste for the work of education, and that others are by habit unfitted to teach children.

The clergy of all denominations have been the chief supporters and directors of religious instruction in the denominational schools ; and, it is therefore surprising to learn how small an amount of religious instruction is actually given in the denominational schools.

The Church of England Bishop of Melbourne observes—"I am sorry to say, from my own personal observation and inquiry, the religious instruction in many of the Church of England schools is painfully deficient. I made, some time since, inquiries, and obtained returns respecting as many schools as I could, and I found that in very many of them there was very little instruction afforded ; and I have myself examined more schools than one, and found a large proportion of the children utterly ignorant of the rudiments of Christianity.

The Inspector-General has furnished the result of inquiries made by him for his own information during a period of two years. He found that in thirty-nine out of one hundred schools visited by him during that period, no religious instruction at all was given, while in three schools only was religious instruction given by the clergyman. The general effect of his evidence, and of that of the other witnesses, is supported by the testimony of the teachers, which goes to prove that in the schools belonging to the great majority of the denominations, religious instruction is the exception and not the rule. So far as the Commission have been able to learn, the Roman Catholic Schools should not be included under this general observation. In all of the fifteen Roman Catholic Schools visited by the Inspector-General, religious instruction was regularly given by the teachers.

Religious instruction, when it is given, is in almost all Protestant Schools unsectarian in its character.

The religious exercises and teaching in the Roman Catholic denominational schools, on the other hand, appear to consist exclusively of such as are peculiar to that sect. It might at first sight be inferred from these facts, that, as far as Protestant denominations are concerned, the impediments to public instruction arising out of sectarian differences have already been removed. How, it may be asked, can denominationalism amongst Protestant sects affect injuriously public instruction when every one of the sects has in practice admitted, that the distinctive dogmas which are assumed to justify its separate existence as a sect, are not of sufficient importance to require that they should be made the subject of daily teaching in the school, and that even religious as distinguished from sectarian teaching is something to which comparatively small practical importance is attached? The Commission regret to state that an inference of this nature would be wholly erroneous and that the real evils of denominationalism in its bearing upon education, continue to prevail in undiminished force. One explanation of this circumstance is to be found in the fact that the various religious denominations, partaking largely of the material character of our general civilization, are, as corporate bodies, extremely reluctant to part with their Church property, that they watch the progress of one another with jealous rivalry, and that none of them is prepared to make any sacrifice for the general welfare which all are not compelled to undergo. A further explanation is contained in the following just and forcible observation of a teacher.

"Each denomination has a fixed idea, that the day school is a nursery or feeder for the church, and that there is necessarily something wanting in any school which is not ruled directly by each respective congregation."

At the time of the passing of the Common Schools Act, professions of a desire for amalgamation were made by more than one of the different Protestant sects; but the Commission have not been able to discover that any of the denominations have been induced, in a single instance, to carry such professions into effect, in the only way in which they could be effectual, namely, by the surrender of the school land, for the purpose of its being vested in the Board of Education, in accordance with the powers contained in the third section of the Act. The presumed object of the Act, namely, "to eliminate the denominational element from the Common Schools of the colony rather than to introduce it," has not been carried into effect; or, to quote the words of the Roman Catholic Bishop of Melbourne, "the Act has failed to realise the expectations of its framers, as the system against which it was enacted has only been embarrassed, not destroyed."

So long as the school remains the property of the denomination it will be impossible to prevent the denomination having the chief or the sole voice in the selection of the local committee; and so long as the local committee of a school is connected with, and is really nominated or appointed by the denomination, the evils of denominationalism will continue to exist in respect to that school, although the managers may exclude sectarian teaching, and may even neglect to provide for religious instruction. The mischievous influences of denominationalism upon public education are represented by the witnesses to be twofold. First, it has a tendency to promote jealousy and distrust, and mutual apprehensions, generally unfounded, amongst the parents of different denominations. The second and more formidable evil arises from the inability of the central authority to compel such an amalgamation of schools belonging to different denominations as may be required in the interests of good education and demanded by considerations of economy. It is expressly or impliedly admitted by all the witnesses that denominationalism has chiefly contributed to produce an undue increase in the number of public schools, a less efficient system of school instruction, and a wasteful expenditure of public money. The Common Schools Act aimed at reducing these evils by leaving the Board of Education at liberty to grant aid to common schools at its discretion, and also by restricting the grant of aid to any new school situated within two miles of any existing school. This object has been frustrated through the excessive pressure of denominational influences. The necessity for reduction in the number of schools in centres of population was admitted, but a small reduction only has taken place. There were 604 schools on the lists of the Denominational Board, in September, 1862, when the present Act came into force. And there were 572 such schools on the roll of the Board of Education at the close of the year 1866. The necessities of public education and the preponderating mass of evidence that has been received seem to demand that a fundamental change should be made in the existing system.

The evidence is almost unanimously to the effect, that parents generally desire that their children should receive an unsectarian religious, and not a merely secular education in the public school.

The change in the present system which the Commission are led to recommend, would involve a separate treatment and management of the schools vested in the Board of Education, and of the other schools in connexion with the Board, most of which are held in trust for education in connexion with particular religious denominations. The former, vested in a central authority, and under the title of public schools, should form a nucleus for a system of national education, to be extended year by year as the means voted by Parliament or otherwise raised will allow. The public schools should be under the management of committees, to be nominated partly by the locality. Sectarian or dogmatic teaching in public schools should be prohibited by express enactment, and power of enforcing the prohibition should be given to the central authority, while religious teaching, recommended in like manner, though not enjoined, by law, should be determined and regulated during certain hours of the day by the local committees. By these means the central authority would be relieved from the difficult and invidious task of selecting and prescribing general forms of religious instruction, and the clerical and lay elements of the various denominations in each locality would be encouraged to co-operate in the work of education.

With respect to the non-vested, including the denominational schools, the Commission recommend, with a view to afford time for the establishment of public schools adequate to the wants of the population, that may be subsidised for a period of five years, commencing 1st of January, 1868. All schools not vested in the Board of Education, and entered on the rolls of the Board on the 1st January, 1867, should be allowed to be registered before the end of the year in the names of their trustees or proprietors, and should be entitled as registered schools to receive a capitation sum annually for every child who should attend the school for a certain number of days, and to be able to pass a prescribed examination in each year. The aid thus given should be withdrawn from any registered school after the end of the year during which a public school had been proclaimed within a limited distance, and at any time for a breach of the regulations. This grant to registered schools should be regarded only as a temporary provision, and the policy of discouraging, of gradually diminishing, and of finally abolishing all State-aid to primary instruction, except to public schools, or by means of other machinery under the control of the central authority, should be distinctly announced by the Legislature, and resolutely acted upon.

The only objection suggested by the evidence to the adoption of a scheme such as has been proposed is raised on behalf of the Roman Catholic denomination. It is asserted that this denomination will not accept any scheme of public education by which the selection of teachers of Roman Catholic children is taken away from the Roman Catholic clergy; and it has been suggested, with a view of removing the opposition of the Roman Catholic clergy, that a separate grant should be given by the State to schools belonging to that denomination. This suggestion, in the opinion of the Commission, needs only a brief consideration to ensure its rejection. A separate grant of public money to any one religious sect, which other sects were not permitted to share, would involve a distinct recognition of that sect by the State, and would be a violation of the non-sectarian principles on which the Constitution of the colony is founded. The fact that the grant was bestowed for no other reason than because the sect in question entertained anti-social views on the question of education, would render the distinction more inexcusable and obnoxious, and would give a colour of justice to the exasperation and jealousy with which the other sects would certainly regard it. It may be added that in the opinion of several of the witnesses, the grant of a sum of money to the Roman Catholic denomination separately would lead to a demand on the part of the other sects for the extension to them of the same benefit. It would be impossible to resist such a demand, and the consequences would be that denominationalism in its simplest and most mischievous form would again become supreme in the system of education.

The Commission believe that the views of the Roman Catholic clergy upon this subject are not generally entertained, and they are, certainly, not acted upon in practice by the intelligent laity of that denomination. The laity of all denominations have been, in the matter of education of their children, sufferers through the unfounded claims and jealousies of the clergy, and the Roman Catholic denomination forms no exception to the general rule. The Roman Catholic laity in Victoria, like the laity of other denominations, are desirous that their children should have a good secular, and (if their clergy will permit,) religious and moral, but unsectarian education. At the central schools in Melbourne, which are vested in the Board, the number of Roman Catholic children in attendance, for a considerable time past, has been larger than that of any other denomination in proportion to the numbers of that denomination as a part of the community. This large attendance is maintained notwithstanding the repeated efforts of the Roman Catholic Clergy to withdraw the Roman Catholic children from these schools. The statement of the Head Master on this point is remarkable.

"I do not think the people would follow the clergy; I think I am justified from my experience in my schools in saying that they would not, because, as I said before, the Roman Catholic clergy have denounced those schools, times after times, year after year. It is not recently, but ever since my connection with them they have denounced them; particularly when the time for confirmation was coming round, and they have paid domiciliary visits to the parents, and forced them to withdraw the children from the schools, and the children have always been sent back after they have been confirmed. I think, if there was a common system of instruction, the Roman Catholic children would be sent to the schools, notwithstanding the claim of the clergy."

The Rev. Mr. Waugh states that—"Roman Catholic children, as well as children of other denominations, attend the Wesleyan schools."

Mr. Dixon states that—"Out of sixteen Roman Catholic children admitted to a Church of England school, in Melbourne, during the past year, the parents of three only objected to religious instruction being given."

Most of the evidence, indeed, upon this subject, goes to show that the Roman Catholic laity have no objection to allow their children to be taught in schools with children of other denominations; or, at all events, that their objection is not so strong as to induce them to withhold a good education from their children upon that ground. But even if the views of the Roman Catholic clergy were shared in by the Roman Catholic laity, the Commission submit that the opinions of any one religious sect, ought not be allowed to obstruct the policy of the country on a subject of such vital importance as that of education. No injustice will be done to any of the sects by the policy recommended. No inequality of treatment would be exhibited to any of the denominations, but the State would initiate a distinct system of public instruction, free from the obstructive influences of sectarianism, and would devote to the support and extension of this new system the main part of the public funds granted for the purpose of education.

The majority of the religious denominations now admit the necessity of such a change, and it is believed that the lay members of all denominations will gladly, and with all-but universal concurrence of opinion, avail themselves of the advantages which a change in the direction indicated seems calculated to confer. Those who dissent will still be able to secure for their children a good secular education in the public schools during a certain portion of each schoolday, and they would be protected by law from all risks of interference with the religious belief of their children, through sectarian or proselytising attempts, not only by the absolute prohibition of all sectarian teaching in the public schools, but also by an express provision enabling them to withdraw their children from the school during the time that may be allotted to religious instruction. If, with such a system of public instruction in operation, the clergy of any denominations should desire to teach their distinctive tenets to the children of their congregations on the week-day, there is no reason for withholding the use of the public schoolroom for that purpose after the close of the school hours of the day.

2.—Mixed Schools, and Amalgamation of Schools.

With respect to the subject of including children of both sexes in one school, in the same or different class-rooms, the evidence is conflicting and nearly equally balanced. Some of the witnesses strongly recommend the separation of the sexes in the public school. Other witnesses, on the contrary, believe that with proper supervision, it is not only safe, but advantageous that children of both sexes should be taught together in the same school, and in the same class. On the whole, the Commission are of opinion that the mixing of both sexes is objectionable, except in schools where ample accommodation exists, together with such an amount of efficient supervision as can be only rarely provided; and therefore it is advisable to provide separate schools for boys and girls, at least, wherever one hundred and fifty of each sex are in attendance at the school. The infant school should, in all cases, be held in a separate room or building, and should be composed of both sexes below the age of seven.

(To be continued.)

ORIGINAL CORRESPONDENCE.

(Writers of all communications intended for publication in this Journal must furnish us with their names, not necessarily for publication, but as a guarantee for good faith and correctness. The Conductors of the Journal are not responsible for opinions expressed by correspondents.)

OBJECT LESSONS AND GEOLOGY.

To the Editor of the Australian Journal of Education.

SIR,—Perhaps a few words on what a country teacher can do towards rendering object lessons interesting as well as instructive, may not be out of place in your journal; and I believe the best way for me to do so, is to tell what I have done myself in that direction, in order that it may be a slight inducement for my brother teachers to persevere in the same manner.

Having had to travel upwards of a hundred miles to my school—from the interior plains to the summit of the Macquarie Range—I was struck with the similitude between the order of stratification of primary rocks and the order of the formations through which I passed. Leaving the rounded granite hills of the plains, and about half way on my journey, I passed through a district where mica slate was the prevailing rock; further on, clay slate, amongst the layers of which I found variegated marl and pieces of sandstone washed down from higher grounds by the creeks. Thirty miles still further brought me to limestone, known as the carboniferous; and on the top of the ranges on which my school is situated, the clay ironstone is the predominant rock. These observations evidently show that the geological formations I passed through, agree with the well-known order of the stratification of primary rocks. During my journey I collected specimens of all these rocks, and shortly after the opening of my school, I invited the children to bring me all the curious stones, &c., they could get. Eventually I obtained the ores of the principal metals, copper, iron, &c., which I labelled, placed on a shelf in the school, and beside them short notes on pasteboard explaining their reduction. Along with them I placed the teeth of several animals, pieces of zinc, tin, felspar, quartz, old red sandstone, porphyry, flies of various kinds, several pieces of iron showing the different stages of reduction, drawings of blast and reverberatory furnaces, &c. The exhibition of such collections to children awakens their attention, excites their curiosity, and imparts the teacher's own love of knowledge and research; besides, the object lesson is made more interesting, and the pupils are compelled as it were to use their reflective faculties.

There can be no doubt that a kdowledge of Geology and Mineralogy would be of great service to the rising generation of this colony. Many a man has wasted hundreds of pounds in sinking for metals in a geological formation in which such metals are never found, and in mining for coal in a rock it is always found above. A farmer should be aware that, where the limestone or clay ironstone formation abounds, the land is better for agriculture than where sandstone is the prevailing rock; and we see how many free selectors have ruined themselves from a want of knowledge of these facts. Again, I may remark that the agricultural regions on the mountain ranges here are much more fertile than in the surrounding plains. The reason, in my humble opinion, is,—the tendency of the *protoxide* of iron to pass into a state of *peroxide* causes a continual decomposition, and therefore a constant renewal of the soil.

And whilst on this subject, I wish to say that I have not the least doubt that there is plenty of coal to be found in the Macquarie Range, as clay ironstone is generally associated with coal, a substance so necessary to its reduction.

I hope the day will soon arrive, when these branches of physical science will be taught in the Public Schools of this colony, as they are taught in every Model School in Ireland; and that rewards will be given to teachers capable of imparting such instruction.

With the hope that these few remarks may stimulate others to form a "Great Book of Nature" for their own schools, to which the children may look into, inquire, and see for themselves, and so be taught to look from Nature to Nature's God, to admire his wisdom, goodness, and perfection.

I remain,
Yours obediently,
W. S.

To the Editor of the Australian Journal of Education,

SIR,—In reply to R. P. I beg to make a few remarks.

The transition state of a proper noun, as "a Hercules," appears to me to mean that it is passing into use as a common noun; and I am of opinion that it would be as well to say nothing about such a state to juveniles. I think *metonymy* would require some explanation, and it is questionable whether the time thus occupied would be profitably spent.

May not the distinction of "sensible" and "rational" nouns refer to nouns that are recognised by the senses, and such as require a process of reasoning to distinguish them?

If R. P. objects to such terms being used in our classes I quite agree with him, and so, I am inclined to think, does the Council of Education; for I find no such terms used in the directions for the treatment of grammar at the end of the "Standard of Proficiency."

"An adjective is a word which limits or qualifies a noun," is a definition which I can confidently recommend; and if R. P. will read some remarks on the article to be found in "De Quincey's" work on "Style," I think he will agree with me, that the article ought not now to be classified with the adjective. It probably was an adjective at its introduction into the English language; but now its use corresponds more with the Greek article than either the French *un* or the Latin *unus*.

With regard to the construction of verbs and their cases, I am of opinion that Dr. Morell has been guided too much by the phraseology of Latin syntax in his treatment of English expressions. It is all very well to speak of a Latin verb having its two cases dependent upon it; not so in English, the remote object in our language being invariably governed by a preposition expressed or understood. This is the natural consequence of the language being less inflected than the Latin.

I am, Sir,
Yours respectfully,
LITERAPHILUS.

Canterbury, March 10th, 1868.

To the Editor of the Australian Journal of Education.

SIR,—Although, at the conclusion of my last to you, I exclaimed "Quid plura," yet I intended, with your kind permission, to make a few more remarks on Dr. Morell's Grammar. The above-written interrogative sentence is only used with reference to my paragraph on "Transitive Verbs."

In his "Table of Verbs" is not Dr. Morell's distinction indistinct? He says "Verbs are I. Transitive, II. Intransitive," and then he goes on to subdivide, and I must confess I cannot understand him. He defines a Transitive verb as follows:—"When the action expressed by the verb does not terminate in the agent, but requires, for its complete explanation, that the object should be stated, the verb is called Transitive," and yet, in face of this, he calls "I move," *i.e.*, "I change place," a "Verb Transitive" in his subdivision No. 3. Surely "I move" is as much of an "Active Intransitive" as "I run" (*vide* his subdivision of "Intransitive verbs," No. 1), or "I walk." He does not tell us, I think, that "walk" and "run" are often used transitively, as, "I *walked* my horse all the way to Dubbo," or "I intend to *run* my horse at Cannonbar, on St. Patrick's Day." In his subdivision No. 3, he has made *faux pas*. How can "wake" be an "inceptive"? Is it not a "Transitive" as well as "Intransitive" verb, as in the sentence, "I *woke* him before sunrise." Indeed I cannot call to mind just now any verbs that may be termed "Inceptives," unless "begin, commence," &c., and these come under "Transitive Verbs."

Now may I humbly suggest that, instead of calling "wake" an "inceptive," and "move" an "irregular verb" of the "middle voice," they should both be termed *Intransitive Reflective Verbs,* as they are used in one way, and Transitive Verbs of the Active Voice, as used in another way. In Latin, as you well know, many verbs take the passive form to express their reflective meaning, as, *delector*, I delight myself; *fallor*, I deceive myself, &c. Although there are many other inaccuracies I could point out, yet I will content myself with adding this one to what I have already mentioned. The Doctor in his "Classification of Words" leaves out the *Article* (as given in Murray, Lennie, and others), yet in his "Part III," "on the Structure of Sentences," he writes, "If the subject consists of a word merely, with or without the *article*," &c., and the example he gives of the "*subject* with the *article*" is, "*The* wise are happy." Surely the Doctor is guilty of contradicting himself. In his "Table of Adjectives" he classifies "the" as an "adjective of distinction," and, in a note of the "Fifty-ninth Thousand" edition *(dictu turpe)* of his Grammar, he writes "the" has been usually termed the definite article, implying that he ignores the *old articles*.

Persons professing to be grammarians should be very particular in what they lay before the public. Can it be that so many editions of Dr. Morell's Grammar have appeared, and that no one has taken the trouble to point out the aforementioned inaccuracies? I am sure no one could be much better employed than in doing so, particularly if it should lead others to consider what *he* and *I*, as well as others, say on this branch of education, for "Quod munus rei-publica affene majus meliusve possumus quam in docemus, atque erudimus juventutem?" As I have said enough to show youth that all that is said in books cannot be implicitly relied upon, I may conclude with the words of the Mantuan bard, "Claudite jam, rivos, pueri, sat prata biberunt."

I remain, Sir,
Yours obediently,
R.P.

Warren, 9th March, 1868.

TEACHERS' RESIDENCES.

To the Editor of the Australian Journal of Education.

SIR,—In your February number, I read with interest a paper on the above. It would be a good thing if the opinions therein expressed were held by all teachers, for then the bare and wilderness aspect of some of our schools and residences would soon disappear. As an encouragement to others, I may be allowed to recount what I have done to improve my domicile. The school ground, consisting of about one acre, is divided into three parts, a portion of which has only lately been fenced. Round the church, which is used as a school, I last winter planted a number of trees, most of which are in a very flourishing state, and will in time give a very pleasing appearance to that part. The piece where the cottage stands consists of about 25 rods. It is unfit for cultivation, or I would form it into a flower garden; as it is, I must be content to have it for a grass plot; but next winter I shall plant it with trees. Some ivy is growing up the wall in front, which is now to a great extent covered by the pretty green leaves.

The third portion contains the only spot fit for cultivation. In this I have sown various kinds of vegetables, some of which are doing well, and promise a good reward for the labour expended upon them. The bush shrubs and trees growing on this part, I have trimmed off to give them the appearance of palms. Among them my schoolboys are constructing a rough playhouse, which they term their "gunyah." The logs and rubbish we threw together and burned. I trust all teachers will set to work and improve their dwellings, so that a teacher will not have to look at a removal as a misfortune in this respsct. I can assure them that I find my gardening a source of pleasure, recreation, and relief after my schoolwork, apart from other benefits that will accrue to me, and the moral influence it has on my pupils.

I remain, Sir,
Yours, &c.,
A BUSH TEACHER.

To the Editor of the Australian Journal of Education.

SIR,—I am at a loss to comprehend what your correspondent, in his "History of Education," means by saying that poetry, music, and sculpture are to be countenanced only as an innocent amusement. While he goes on to say that eloquence and mathematics are beneficial to a certain degree, but can never be of any great practical use to the human race. If they were of no great practical use to the human race, what would be the use of them at all? Now, I consider they (more especially mathematics) are very beneficial to man, and I do not think that poetry, music, and sculpture are not only innocent amusements, but very great aids in enlarging the human intellect. Mathematics are an inestimable study, because they are brought into use every day of our lives. Without them we could not measure the vast globe in which we live, nor could we ascertain the number of planets by which we are surrounded.

Hoping to be corrected should I be wrong,

I remain,
Yours, &c.,
AMICUS.

Warren, March 9th, 1868.

To the Editor of the Australian Journal of Education.

SIR,—Your Illawarra correspondent will find answers to his questions as to the proper Drawing position in Fowles' Elementary Drawing Book No. 1.

I remain, Sir,
Yours obediently,
CURVE.

THE STUDY OF ENGLISH CLASSICS.

To the Editor of the Australian Journal of Education.

SIR,—I beg to offer a few remarks on the article headed Study of Latin, with which your last number opened.

Although agreeing in the main with what is urged in that article as to the advantages of possessing a knowledge of Latin, especially as applied to teachers, I am bold to assert that the study of English Classics is at least of equal importance. Latin literature is of great value, and its study is, as the writer correctly observes, a discipline of the mind and a step to the further acquisition of knowledge. But Latin is a dead language, no longer used as a vehicle of general intercourse in the land of its birth, and its primitive accent is lost. Like Sanscrit, Greek, and Anglo-Saxon, &c., Latin may be said to exist in a petrified state. These languages exhibit the "modes of thought of thepeople who spoke them, and their relation to other races, as fossil remains show the forms and relations of animal life." Hence their value, chiefly, to us. Out of the decay of the Saxon tongue sprang the English, and surely the parent of our speech has as great claims on our study as Latin or any other foreign language, except perhaps German, through which only can we become acquainted with Saxon. Indeed what is now misnamed Saxon is Low German, for scholars have proved that the language of Saxony always was High German. The Saxon spoken of in books is Low Deutsch, or primitive Dutch, not Saxon.

A living language, and that the one we speak, must certainly merit more regard than another, especially if our own possesses advantages, intrinsically as great. No deeply read English scholar will question this. We can boast of having produced authors in every department of literature, whose works teem with "thoughts that breathe and words that burn" as fervidly as any to be found in Cicero or Plato.

Although the English language is not equal, as a means of discipline, to the Latin and Greek, it admits of precisely the same methods being applied to its study as are applied to the study of the latter. There is, certainly, a difference in degree; in kind there is none. One of the greatest living authors considers English "an effective instrument of mental training and *refinement*." I readily admit that our language, even in its purest form, has not reached such a degree of culture as either of the great classical models; but its resources are as vast, its power of expression as great, and its poetry as exalted as theirs. They are permanently fixed, whereas ours is constantly progressing, receiving, too, in its march, accessions to its stores from all sources, and exhibiting a facility in employing them, according to its peculiar genius, as great as that which Greek possesses in the formation of compound terms.

I am not "decrying the study of Latin, in common with other ancient tongues, and representing it as of comparatively small utility." But when it is admitted that, to acquire only a fair knowledge of it, Latin demands a large expenditure of time," it seems to me hardly deserving to be ranked as of *primary* importance—even to teachers. Some knowledge of Latin is necessary in order to possess a thorough acquaintance with the history of our own tongue, and to read certain *English* authors with understanding and appreciation; but to doom the student to such drudgery as hundreds of men have borne, who, after spending years in the study of Latin or Greek, are unable to translate with accuracy a page of Horace or Homer, is certainly not warranted by the necessity of the case, nor, as a rule, are the results of such a study worth the labour given in a practical point of view. For, great as the value of classical training is, why should not a training acquired in the study of English be equally so? In all the colleges and upper schools in England the study of our own language forms one of the leading subjects in their curricula, and is prosecuted to an extent and according to methods altogether unknown a few years ago. What has caused this change? I venture to assert that it is in great part owing to the fact that the classics have not been found sufficient, even as means of discipline, or as models of thought and expression, apart from an equal acquaintance with the history and resources of English, to make what Bacon calls the *full* man; it is also in a measure due to the improved modern methods of teaching the latter.

Again, just as the very best translation of a Latin or Greek work fails to give the exact meaning of the original, so in the study of an English author, what he intends to convey does not always lie upon the surface, nor is it discernible merely in the words used, which are frequently commonplace enough, but it has to be sought for and dug out like ore from the mine, which, generally speaking, is the richer, the deeper you go. Shakespeare and Milton are examples of writers in whose works far more is meant than at first meets the eye. Moreover, just because a living language, like ours, is constantly undergoing changes—only slight, and after long intervals, in its *structure*, indeed, but both largely and numerously in its vocabulary and modes of thought, the latter necessitating different forms of expression—English must be closely studied to keep pace with these changes, and the better to comprehend its past history.

Let Latin be studied by all means; but let English be studied at least as diligently, or rather, let the study of the one be pursued in its relation and as an auxiliary to a more comprehensive knowledge of the other. Latin is needful: English is more so, for the purposes of daily life.

I remember a piece of advice once given to me by a literary gentleman, *ex cathedra*, "Study essentials *first*." That is, of course, in the order of importance, as well as of time.

I am, Sir,
Yours obediently,
J. Sheldon.

To the Editor of the Australian Journal of Education.

Sir,—Will you kindly allow me space and insert the following queries in your next publication:—Where can I obtain full particulars respecting "Collossus of Rhodes"? By whom, and in what year, was it erected? In what year was its overthrow, and what became of the debris? An answer will greatly oblige a brother Teacher.

PERSEVERANDO.

SUPERANNUATION.

To the Editor of the Australian Journal of Education.

Sir,—In the January number of your valuable serial, there is an article on Superannuation which, as I am a teacher of some years standing, I read with considerable interest. I was in expectation that some of your correspondents would favor your readers with their views on this important topic, but I regret to find that nothing has since appeared on this subject.

For my own part, if I rightly understand that article, I cannot say that it fully meets my view. I quite concur in the opinion that the existing Superannuation Act does not apply to teachers; and further, that until an alteration is made in the law, as it stands at present, it would be illegal to appropriate any of the public funds in the superannuation of teachers; but I respectfully submit that the teachers under the Council of Education, have as valid a claim upon the consideration of the Legislature, for assistance towards the formation of a fund for pensioning worn out or invalided teachers, as any others employed in the public service. There is no class of persons whom infirmity will so soon unfit for efficient service as teachers. Men in other departments, partially unwell or suffering pain incidental to advanced age, may perform their accustomed duties with tolerable satisfaction to the heads of their respective departments, but this cannot be said of teachers, who have such peculiarly tender material to deal with, which at all times demands clear judgment, great patience, and equanimity of temper: qualities which pain or infirmity is so apt to destroy. There is also this consideration: no class of public servants are so unfitted for other pursuits as those who have spent many years in dealing with children. Not only do they become, in common with others in Government employment, incapacitated by long disuse of whatever business abilities they might have possessed, but they from the nature of their duties, contract habits that render them wholly unfit for competing with their fellow citizens (who have always been engaged in business) in the ordinary branches of trade. Supposing then that up to this point, teachers are in much the same position as other public servants, the fact, that the former have by no means the same facilities for preparing for the "evil day" as the latter, goes conclusively to prove that teachers have as strong a claim upon the consideration of the Legislature as those employed in Government offices. The latter are for the most part drawing vastly higher salaries, and are stationary; circumstances that enable them to avail themselves of the ordinary channels of investment for savings out of their income. Not so with teachers, who must necessarily be subject to removal, which invariably necessitates the disposal of whatever little accumulation the most thrifty may have made.

I have no doubt that the Parliament of the country will be disposed to fairly consider the claims of those who spend the best part of their lives in instructing the rising generation, whenever the matter is brought before it. The claim, I admit, is somewhat novel; but this arises from the altered circumstances of the teaching machinery of the times. It was not until the establishment of the two Boards of Education in 1847, that teachers became public servants; up to that period, teachers were more in the capacity of contractors, than public servants, having only "grants in aid." There were some who held appointments under certain government regulations previous to that period, and were allowed pensions on their retirement. But now that all who receive pay from the public purse hold their appointments under boards established by Act of Paliament, and are or were controlled by them, have, if not a legal, at least a moral claim for some support in their old age, Especially as there is no class of public servants that renders greater service to the state.

With respect to the suggestion, that a superannuation fund might be obtained by the establishment of a benefit society among themselves as a body, I may say that without aid from the public funds, it will be found of very little value indeed. Should the Council of Education be disposed to afford its assistance, as the agent for collecting the contributions, and paying the retiring allowances, it would do much towards the success of such a scheme; but even then it would be very partial in its operation. It might be a very good thing for young teachers now entering the service of the Council of Education, but it would not be a safer investment for teachers, that have been for any length of time employed in the public service, than the savings' bank; for it is too well known, that few, if any, are in a position to pay up such an entrance premium, as to place them on a footing with those now entering the Council's service. Whatever arrangements then the Council of Education should consent to, in order to the establishment of a superannuation fund, ought to be such as would embrace all under its control; for it is only on the ground of public service that superannuation should engage its attention at all; and those that were under the Boards, superseded by the Council of Education, were, I submit, as much in the service of the State as those that have been appointed since the Public Schools Act was passed, and are as much entitled to the consideration of the country.

The circumstances arising out of the payment of fees by the children, do not in the least affect the general question of superannuation. It may perhaps interfere, to some extent, with details, should the matter be attempted, but they are not such as would present any serious difficulty.

Trusting you will deem these remarks worthy of a place in your pages,

I am, Sir, yours, &c.,
AN OLD SCHOOLMASTER.

NOTICE TO CORRESPONDENTS.

SCRUBBER.—We have handed your communication to the writer of the articles on analysis. We shall probably recur to the subject in a future issue, but in the meantime we cannot refrain from remarking that it is no more debasing to teach for money by writing than it is to teach for money by talking.

LITERAPHILUS.—The large number of letters received this month has occupied so much of our time and space that your communication must be held over for the present. Your letter has been handed to the writer of the articles on analysis.

QUESTIONS FOR SOLUTION.

1. What is the content in Imperial gallons of a circular tank, 13 feet in diameter at the top, 8¼ feet deep, and 9 feet 4 inches at the bottom?
DISCO.

2. What is the length of the side of an equilateral triangle, equal in area to a square whose side is 20 yards? DISCO.

3. A regular pentagonal prism is placed on an inclined plane, whose angle of inclination is 40 deg. Will it roll over and over or will it slide?
G. J. P.

4. Theorem. Prove that the sum of the distances of any point within a triangle from the three angles is greater than half the perimeter of the triangle. MAGISTER.

5. What is the distance of a house at a certain place C on the North Shore from a spot at Surry Hills, and also its distance from the point B at Redfern; the distance between A and B being 880 yards, and the angles at A and B being 83 deg. 45 min. and 85 deg. 15 min. respectively? DISCO.

6. Some bees were sitting on a tree; at one time there flew away a number of them represented by the square root of half the number in the swarm: and again eight-ninths of the whole swarm, two only remaining. How many bees were there? MAGISTER.

7. If to a certain number its fourth power be added, and then twice its cube subtracted from this sum, the remainder is 30. Find the number.
G. J. P.

8. A starts from London to walk towards Lincoln, and at the same time B starts from Lincoln to walk towards London, each keeping the same road. When they meet, A saith to B, "I find I have travelled c miles more than you, and I have gone as many miles in d days as you have gone miles in all." "'Tis true," saith B, "I am not so good a footman as you, but I find that at the end of f days hence I shall be at London, if I travel daily as many miles as I have hitherto done." What is the distance of the two cities from each other? and how many miles had each footman travelled when they met?
E. HEWISON.

9. Solve the equation:— $x^4 - 400x - 2x^2 - 9999 = 0.$
E. HEWISON.

10. Parse the words in italics in the following sentences selected from the I. N. B. Lesson Books:—

a "But *what* was her dismay on seeing a large dog with his nose in her basket."

b "She found she had sixpence *more than* the three *shillings* which her mother had told her to bring home."

c "Suppose we talk about them both, and see in what things they are *alike*.'"

d "A goat's hoof is more like a sheep's than a horse's hoof. Think *why*. One of these goats was feeding in a very rocky place *all* by himself."

e "All plants grow wild somewhere or *other*, but the wild ones are seldom *as good as* those which are taken *care* of."

f "*All through Southern Europe* the climate is delightful."

g "*Even* man himself sometimes falls a *victim* to the wolf's rapacity."

h "*All* this is enough to make them brethren."

i
A lion, bravest of the wood,
Whose title undisputed stood,
As o'er the wide domains he prowled,
And in pursuit of booty growled,
An echo from a distant cave
Growled back in tones as loud and grave."

j *What* with birds, beasts, amphibious animals, fish, and reptiles, the eye was at length tired with the everlasting succession, and the mind could wonder no longer." ***

11. Analyse—"The state of the world is such, and so much depends on action, that everything seems to say aloud to every man, 'Do something, do it, do it.'" MAGISTER.

12. Notes of a lesson on the Duck-billed Platypus for a III. Class are required? MAGISTER.

ANSWERS TO QUESTIONS IN No. 3.

Question 1.—Answered correctly by A.A., Excelsior, J. and W. Hullick, J.F., J. M'Donnell, Literaphilus, Keira, Mead, Scrubber, and W. Smith. The ball moved 3100 feet.

We give the following solution by Literaphilus :—

The ball falls 100 feet ; and then rebounds, passing through $2(\frac{15}{16}$ of 100 feet$)=187\frac{1}{2}$ feet, and so on through $\frac{15}{16}$ of the last space gone through ; thus rebounding and passing through a series of spaces in geometrical progression, the first term of which is $187\frac{1}{2}$ and the last indefinitely small ; the common ratio being $\frac{15}{16}$.

The limit (Z) of this progression may be found thus :—

$$Z=\frac{187\frac{1}{2}}{1-\frac{15}{16}}=\frac{\frac{375}{2}}{\frac{1}{16}}=375\times 8=3000 \text{ feet}$$

i.e., the more terms we take or the more rebounds we allow the ball to make, the nearer will their sum be to 3000 feet. To this add 100 feet and the answer is 3100 feet.

Question 2.—Answered correctly by A. A., J. F., J. McDonnell, Keira, and Mead.

It is proven that $x=3$ or 1, and $y=2$ or 5. The solution would occupy too much of our space.

Question 3.—Answered correctly by A. A., E. H., Excelsior, H. McIntyre, J. and W. Hullick, J. F., J. McDonnell, Literaphilus, Keira, Mead, Scrubber, and W. Smith.

The greater number is $44\frac{4}{9}$, and the less $35\frac{5}{9}$. The following is the solution by Scrubber :—

Let $x=$ the greatest
and $y=$ the less.

By the question $(x+y)x=100y \qquad (a)$
and $(x+y)y=64x \qquad (b)$

Dividing *(a)* by *(b)* $\dfrac{x}{y}=\dfrac{25y}{16x}$

Clear of Fractions and $16x^2=25y^2$

Extract Sq. Root and $4x=5y$

Dividing by 4 $x=\dfrac{5y}{4}$

Substitute value of x in *(a)* and $\left\{\dfrac{5y}{4}+y\right\}\dfrac{5y}{4}=100y$

Simplify and $\dfrac{45y^2}{16}=100y$

Clear of Fractions and $45y^2=1600y$

Divide by $5y$ and $9y=320$

Divide by 9 and $y=35\frac{5}{9}$

Substitute value of y and $x=\dfrac{320}{9}\times\dfrac{5}{4}=\dfrac{400}{9}$
$=44\frac{4}{9}$

The questions which appeared in our February number were answered correctly by some of our contributors whose papers were received too late to be noticed until now. Among them we note—

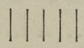
Expectans.—Questions 1, 3, and 5.

P. Downey.—Questions 3, 4, and 5. The solution of Question 4 is particularly good.

J. Jones.—Questions 3, 5, and 6. Answer to Question 4 applies to one case only.

—o—

LESSON REGISTER of the SECOND CLASS in School.
Name of Teacher Average age of the Pupils in the Class, 8-2 years.
Took charge of this Class on 186 Quarter of Enrolment—First.

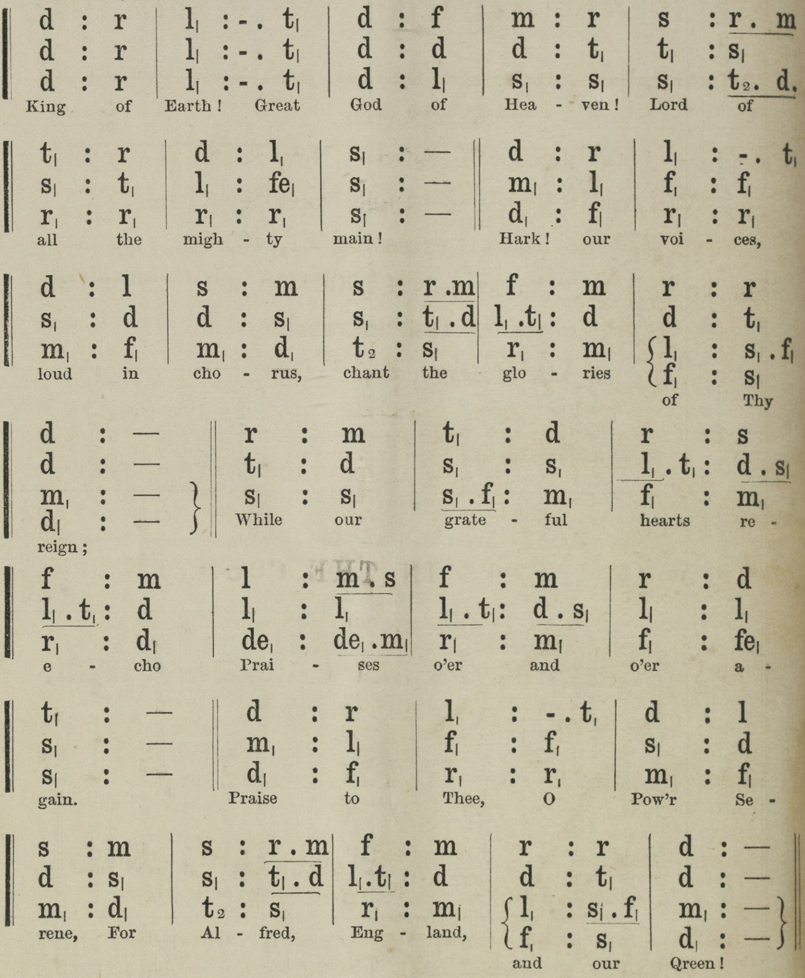
DATE.	READING.	WRITING.	ARITHMETIC.	GRAMMAR.	GEOGRAPHY.	OBJECT LESSONS.	DRAWING.	VOCAL MUSIC.	OTHER SUBJECTS.
1868. Jan. 7.	Second Book I.N.B., Sec. I. Lesson 1st.	"IMMATURE." 1st & 2nd paragraphs Reading Lesson from *Dictation*.	Notation and Addition, as— 7356 8629 3789 8695 *Tables.*—To 3 times 6.	Names of objects used by class.		Cow and Pig compared.		"Children go." D, M, S, D', from Modulator.	
" 8.	Lesson 1st.	"TEMPTATION." *Dictation*—3rd par. Reading Lesson.	Addition and Notation to 4 places. *Mental.*—Addition of digits to 50.		Plan of school-room floor.		Posture of body.	Practising School Songs.	
" 9.	Lesson 2nd.	"TENACITY." Transposition of Reading Lesson.	Addition and Notation, as 9807 639 10 5090 *Tables.*—To 3 times 12.	Names of familiar objects.		Cow and Pig compared.		"Children go." **d : s | m : d' | d' : s | d : —** etc.	
" 10.	Lesson 3rd.	"FUTURITY." *Dictation*—2nd par. Reading Lesson.	Addition & Notation, 4 places. *Mental.*—Addition of digits to 70.		Plan of school-room floor.		Manner of holding pencil	Practising School Songs.	
" 11.	Lesson 4th.	"FUGITIVE." *Dictation*—Reading Lesson.	Testing Exercises on week's work in Addition, Notation, and Tables.	Distinguishing names in sentence.		Cow and Pig compared and revision.		School Songs and Exercises on Strong Tones from Modulator.	
" 14.	Lesson 5th.	"SAGACITY." *Dictation*—Reading Lesson.	Addition and Notation, as— 7986 930 5072 896 6307 *Tables.*—To 4 times 4.	Nouns.		Cow and Pig contrasted.		"Lightly Row." Illustrative Examples of lengths of Tones.	
" 15.	Lesson 6th.	"SALUBRITY" *Dictation*—Reading Lesson.	Addition and Notation, 4 places, as before. *Mental.*—Adding cols. of digits to 80.		School-room, north wall.		Position of hand for perpendicular line and drawing perpendicular line.	Practising School Songs.	
" 16.	Lesson 7th.	"SPONTANEOUS." Transposition of Reading Lesson.	Addition and Notation, as Monday. *Tables.*—To 4 times 7.	Distinguish-nouns in sentences.		Cow and Pig contrasted.		Two-pulse Tones to Teacher's beating.	
" 17.	Lesson 8th.	"LITIGATION." *Dictation*—1st half Reading Lesson.	As yesterday. *Mental.*—As on Tuesday.		School-room, south wall.			Practising School Songs.	
" 18.	Lesson	"LAMENTABLE." *Dictation*—2nd half Reading Lesson.	Recapitulatory Exercises.	Distinguishing nouns in sentences, as—"Gloves are made from the skin of the kid."		Recapitulate anecdotes of Cow and Pig.		Exercises on previous lessons.	

THANKSGIVING HYMN.

SUNG IN THE PAVILION, HYDE PARK, SYDNEY, 21ST MARCH, 1868.

Words by DERWENT COLERIDGE; Music by W. J. CORDNER. Arranged for equal voices by the composer, and published by his permission.

KEY A *flat*. M. 50.



Thou hast saved from death and danger,
From the dastard murderer's hand,
Him, the young and high-born stranger,
Sent us from our Fatherland—
Alfred, gallant Prince and sailor!
Son of her who rules the land,
Praise to Thee, O Power serene,
For Alfred, England, and our Queen.

Joy for ever! joy for ever!
Bound a million hearts as one,
Throbbing high with love and gladness,
For the mercy Thou hast done—
Saved us from disgrace by saving
Alfred, Queen of England's son.
Praise to Thee, O Power serene,
For Alfred, England, and our Queen.

God protect him—God direct him;
This our heart's own loyal strain;
Guard his path across the waters,
Back to England safe again—
Back to England—Home and mother,
Back to England's Queen again.
Praise to Thee, O Power serene,
For Alfred, England, and our Queen.

Printed by R. BONE, at the "Phœnix Office," 140 Pitt Street; and Published by J. J. MOORE, 560 George Street, Sydney, for the Australian Journal of Education Committee, Wednesday, April 1, 1868.

THE

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TEACHERS' PROSPECTS.

A Correspondent whose letter we publish, has called attention to the question of Teachers' Superannuation. With much that he advances we cordially agree; but we protest against the application of such a term as "flunkey" to Teachers in the service of the Council of Education. A Teacher possessing qualities which would entitle him to respect in any other walk of life may feel secure of respect in his own profession so long as his duties are faithfully discharged; and as regards the servility usually supposed to characterise the flunkey, he need have no apprehension that it will be required of him or conduce in any way to his interests. That modest independence of manner, tempered by courtesy, which is the distinguishing attribute of a gentleman, may, and ought to be exhibited by every Teacher, to those beneath, as well as to those above his own rank.

Our correspondent assumes that the apparent apathy of Teachers on the matter of superannuation arises from their conviction of the hopelessness of the cause. While we admit the difficulties of the question we are not by any means devoid of hope. Some recent occurrences have tended to strengthen that feeling. Mr. Forster, for example, in a speech delivered in the Legislative Assembly, advocated the extension of the Superannuation Act to Teachers of Public Schools—meaning, we presume, all Teachers in the Council's service. It gives us real pleasure to find that Mr. Forster has so completely changed his views on this question, and we are thankful to him for bringing the matter under the notice of the Parliament. Our gratitude would have been much stronger, however, but for our knowledge of the fact that, by preventing the passing of the Estimates and the Appropriation Act, Mr. Forster's well-meant, but inopportune, proceeding has delayed the payment of the salaries of Teachers, many of whom will not receive the March salary till that for April is due.

The questions asked by Mr. Sheldon are most pertinent to the matter under consideration, but there ought to be no doubt as to the replies. Teachers are the proper persons to make representations respecting Teachers. If they are too inert, or indifferent, or timid to make their wishes known, they cannot expect that the Council of Education, the Government, or the

the conjunction—*that*; but other words, and sometimes interrogatives, such as *why*, *how*, *when*, *who*, and *what*, are often employed. Occasionally there is none. It is, however, unsafe, as well as *improper*, to take the mere introductory conjunction as a criterion of the kind of clause. Most of the words quoted above, are employed for other clauses; and it should be remembered that the sense and meaning are the only sure guides.

85. We will endeavour to make this evident from the exemplification of the uses of "*that*," the most common of Substantival Connectives.

SUBSTANTIVAL.—"I knew *that* she could not come."

ADJECTIVAL.—"He *that* is willing, will subscribe."

ADVERBIAL.—"Others were tortured, not accepting deliverance, *that* they might obtain a better resurrection."

86. We may see that in the *Substantival relation*, some inquiry is made, or, something is said to be *thought*, *known*, *suggested*, *said*, or *done*. By these tests, the existence of the clause should be discerned.

87. Examples of various modes of application may be seen in the following sentences:—

That. "I merely said that the application was inadmissible."
If. "Ask not if courts or camps dissolve the charm.
Why. Say why Vespasian loved his Sabine farm."
What. "To the presence in the room, he said—"what writest thou"?
What. "Consider, I beseech you, what was the part of a faithful citizen."
Who. "Say—who was your informant?"
When. "He departed without stating when he would return."
How. "'Tis yours to judge how wide the limits stand,
Between a smiling and a happy land."
Again the voice said—"come forth Oh, King"!
"He believed the information was unreliable."

88. That the bearing of the various clauses may be fully, and at the same time gradually understood, we purpose to shew the analysis of the Complex Sentence, comprehending only one kind of clause at a time. The following, therefore, exhibits a sentence containing the substantival clause, without the admixture of any other indirect clause:—

"He saw why the expedition should start at that particular season, how it ought to be conducted, and when it should return, that these dreary solitudes might at last be safely penetrated, and that the problem of ages could be finally solved."

89. In further proceeding to shew the Analysis of a Complex Sentence with *only* one kind of Subordinate Clause, it will be observed that, Substantival Clauses, (Art. 22.) are said to be co-ordinate, when of equal force and importance. On the one hand, they cannot be co-ordinate to any direct clause, simply because they are subordinate; nor yet, on the other hand, can they be co-ordinate to any other species of indirect clause, because they are dissimilar. The law of co-ordinacy requires that there be similarity of kind, construction, force, and importance.

Distinguishing Letters.	CLAUSES.	NAMES OF CLAUSES, AND THEIR RELATIONS TO EACH OTHER.	CONNECTIVES.	SUBJECT.		PREDICATE.					REMARKS.
							COMPLETION.				
				Enlargement of Subject.	Simple Subject.	Simple Predicate.	Object.	Attribute.	Extension of Predicate.	Kind of Extension.	
A. *	He saw	Principal Clause to *b. c. d. e. f.*	...	...	He	saw	Clauses. *b. c. d. e. f.*		why	...	* Principal Clauses only are marked with capitals.
b.	why the expedition should go forth at that particular season,	Subst. Clause, object to *A* : co-ord. to *c. d. e f.*	...	the	expedition	should go	...	...	forth at that particular season	Adjunct of manner. Adjunct of time.	
c.	how it ought to be conducted,	Subst. Clause : object to *A* : co-ord. to *b. d. e. f.*	...	...	it	ought to be conducted	...	...	how	Adjunct of manner.	
d.	and when it should return,	Subst. Clause : object to *A* : co-ord. to *b. c. e. f.*	and	...	it	should return	...	...	when	Adjunct of time.	
e.	that these dreary solitudes might at last be safely penetrated,	Subst Clause : object to *A* : co-ord. to *b. c. d f.*	that	these dreary	solitudes	might be penetrated	...	...	at last safely	Adjunct of time. Adjunct of manner.	
f.	and that the problem of ages could be finally solved.	Subst. Clause : object to *A* : co-ord. to *b. c. d. e.*	and that	the of ages	problem	could be solved	...	...	finally	Adjunct of time.	

[We have considered it desirable, in order to draw attention to various methods of teaching and to evoke discussion, to afford contributors opportunities of stating their views on such points; but it should be understood that the Conductors of this Journal do not necessarily identify themselves with the opinions so expressed.]

A SYSTEM OF TEACHING ARITHMETIC.

[*Continued from Page* 110.]

The Multiplication Tables should be committed to memory while the children are going through *Addition* and *Subtraction*, and their use should be fairly understood by the time the latter branch of Arithmetic is mastered. The "carrying" process, as in *Addition*, being clear to the understanding of the children, it will enable them, on being put to do a sum in *Multiplication*, to multiply by one digit with great facility when shown, that they have only to multiply as they were accustomed to do by the Tables, and to carry as in Addition. Suppose we had to mutiply 67,495 by 7. We should, before commencing, take care to ascertain that the child can readily tell 7 times 5, 7 times 9, 7 times 4, &c. Seven times five being 35, he is told to set down the unit 5 as he was wont to do in Addition, and carry the tens, 3. There is, however, this difference between the operation he has been accustomed to, and that he has now to perform. Formerly he carried to the next line before reckoning it up; but now he has to reckon the next, and then *add* the number he has to carry to the product. Suppose he added the 3 to the 9, and then said, 7 times 12=84, it would be equivalent to multiplying the tens by 7, and adding their product of 9 × 7, which would be far in excess of what the number ought to be. Nevertheless, the old principle of carrying tens to the tens, and the hundreds to the hundreds, as in Addition, holds good in Multiplication. In the number given, the 9 represents the number of tens, *i.e.*, 90; and in the product of 5 × 7, the 3 is the number of tens; the 7 times 9 is an expression equivalent to 90 × 7=630; the 63 is the number of tens when multiplied by 7, or 630, and the 3 tens to be carried from the product of the unit digit, will make the number 66 tens, or 660. Being at the tens, we set down the digit 6, and proceed to the digit indicating tha number of hundreds, which we multiply by 7, and carry to this product the number of hundreds in the product found for the number of tens, and so on with all the other digits in succession.

It is a matter of opinion how far we should go into the theory with young children, but there can be little doubt that if children are once accustomed to proceed on well defined principles, they will always perfer it, and much will be gained in their preparedness for future work, especially when notation is thoroughly understood.

To illustrate more fully our meaning while attempting to exhibit the theory of Multiplication, we proceed to show—In the number 67,495, we have sixty thousand, seven thousand, four hundred, ninety, and five, each of these numbers is supposed to be multiplied by 7. If taken singly it matters not with which we begin, we have the same result.

$$\begin{array}{rcccr}
60{,}000 & \times & 7 & = & 420{,}000 \\
7{,}000 & \times & 7 & = & 49{,}000 \\
400 & \times & 7 & = & 2{,}800 \\
90 & \times & 7 & = & 630 \\
5 & \times & 7 & = & 35 \\
\cline{1-1}\cline{5-5}
67{,}495 & \times & 7 & = & 472{,}465
\end{array}$$

We now proceed to perform the same operation, commencing, as we usually do, with the units digit.

$$\begin{array}{rcccr}
5 & \times & 7 & = & 35 \\
90 & \times & 7 & = & 630 \\
400 & \times & 7 & = & 2{,}800 \\
7{,}000 & \times & 7 & = & 49{,}000 \\
60{,}000 & \times & 7 & = & 420{,}000 \\
\cline{1-1}\cline{5-5}
67{,}495 & \times & 7 & = & 472{,}465
\end{array}$$

It will now be seen at a glance, that the sum of the numbers to be multiplied, each by 7, is 67,495, and that the sum of their products is 472,465; and it will further be seen what should be carried from each digit: the reason will be equally perceptible.

As soon as a child can easily multiply by one digit, he can, on being shown how to place the products, multiply by any number of digits, even if there should be several ciphers in the multiplier. Suppose it is required to multiply 78,564 by 689,040. We set this sum on the black board, thus:—

78,564 the multiplicand, or number to be multiplied.
689,040 multiplier, or how many of such numbers there [are to be multipled.

$$\begin{array}{rcr}
\hline
00{,}000 & \text{product by} & 0 \\
3{,}142{,}560 & \text{,,} & 40 \\
707{,}076{,}000 & \text{,,} & 9{,}000 \\
6{,}285{,}120{,}000 & \text{,,} & 80{,}000 \\
47{,}138{,}400{,}000 & \text{,,} & 600{,}000 \\
\cline{1-1}\cline{3-3}
54{,}133{,}738{,}560 & \text{,,} & 689{,}040
\end{array}$$

Here we have 78,564 multiplied by 40, and the product is found to be 3,142,560; and the product of 78,564, multiplied by 9,000, is found to be 707,076,000, &c. The sum of these four products, when added together, is found to be 54,133,738,560, equal to the product of 78,564 × 689,040 (the sum of 40, 9,000, 80,000, and 600,000.)

The principal difficulty with children is to get them to understand clearly where they are to set down the first digit in the products, when there are several ciphers in the multiplier. As we have reapeatedly said before, the difficulty will soon vanish, if the foundation of the work previously done, be well laid.

Every number as set down, whether multiplicand, multiplier, or products, should always be numerated or read. When he comes to the product for 40, he reads it, and leaves it, as if there were no other digits in the multiplier. Then, when he reads the product for 9,000, he finds that the ciphers in the units period may be dispensed with, their place being understood. The same remarks apply to the products for the other numbers. The ciphers in all the products may be dispensed with, provided their places be left vacant. Children should be given to understand that a cipher is set down to show that the place it occupies is regarded as being vacant, just as we should leave spaces at the desk, when some of the boys are absent. The space in the second place at the desk, indicates that the second boy is absent; just so with numbers. If there are ciphers in the place for the units or tens, it indicates that there are no tens, or no units, whatever other numbers there may be.

Returning to the usual, or abbreviated method of doing a sum in Simple Multiplication, we take the same numbers, and proceed with these directions.

We set down the multiplicand	78,564
Then the multiplier	689,040
Draw a line to separate them from the products	
Products of the different parts of the multiplier	3,142,560
	707,076
	6,285,12
	47,138,4
Product for the whole multiplier	54,133,738,560

Always commencing at the right hand, we find the units digit in this instance, to be a cipher. Then to multiply any number of digits by a cipher, would only give as many ciphers, for nothing times anything is nothing. Well, we set down the 0 to indicate there is a line of ciphers for its product. We next go to the tens, 4, in the multiplier; and *because these products are to be added*, we put the first digit for the product of the tens in the place for the tens, or the second place, leaving the 0 to supply the place for the units' digit, and then proceed multiplying the whole of the multiplicand by this 4, just as if there were no other digits in the multiplier. Then proceeding with the next digit in the multiplier, which we find to be a cipher, we pass over it, only observing it indicates that there are no hundreds in the multiplier. We now come to the 9, which indicates the number of thousands; and because it does so, whatever its product will be, must be so many thousands. The first digit for it must therefore be set down in the thousands place of the products to be added up. Hence the 6 should be in the fourth place, and under the 2, in the preceding product. We then proceed with the remaining digits in the same way, placing the 7 under the 4, the 0 under the 1, &c. Then coming to the next, or fifth digit, or the tens of thousands, 8, in the multiplier, we place the first digit for its product in the fifth place, the place for the tens of thousands in the products, under the 7 in the previous product, and so on, as with the remaining digits in the multiplier. The remaining digit in the multiplier, 6, indicates the number of hundreds of thousands. The first digit, 4, in the product for which (always reckoning from the right hand to the left) must be put in the sixth place, under the 1 in the preceding product, &c., &c. When these products, which every child ought to be taught to distinguish, are added together, their sum will be the grand product of the two principal numbers multiplied together. It may further be shown, that it matters not which number is made the multiplier, or which the multiplicand, the product will be just the same; but generally it will be found convenient to make that the multiplier which will produce the less number of products.

It generally happens that children who can only multiply by one digit, are frightened when set to do a sum with several digits in the multiplier. Their alarm soon subsides when shown that they have only to proceed with one just as if all the rest were rubbed out. Then proceeding with the next as if there were no others, they find they can readily do any sum in SIMPLE MULTIPLICATION. The only difficulty being to know where to set down the first digit by each multiplier. This difficulty they will soon get over by attending to what has already been said. The teacher might quicken their apprehension by asking them such questions as the following:—Why do we set down the cipher before we begin to multiply by 4? Because the unit in the multiplier is a cipher, and its place must be represented by a cipher in the product. Is the 6 in the first line of the products to be regarded as the first digit in the product by 4? Yes, or the second in the product by 40. Why do we place the 6 in the second line of products—the product by 9—under the 2 in the first line of products? Because the 9 being thousands, or the fourth digit in the multiplier, the first digit by it must be put down in the place for thousands. Would it not do as well to put down the 2, the first digit for the multiplier by 8, under the 6 in the preceding product, as under the 7? No, because the 8 in the multiplier is the fifth digit, and indicates the number of tens of thousands, and therefore the first digit for it must be put down in the fifth place, or the place indicating the number of tens of thousands. But there are no ciphers in that line? There are four ciphers understood to the right of this digit, filling up the places of thousands, hundreds, tens, and units. Then why should we not omit the cipher in the first line? Because there would be then nothing to show that a cipher was understood there, and the number might be mistaken for ten times less than its proper value. The cipher, however, might be omitted until we come to the sum of all the products, when it would be necessary to restore it, because we must affix to the sum of the products as many ciphers as were to the right in both the multiplier and multiplicand. Thus, forty times seven thousand six hundred (7,600 × 40.) We find on multiplying 76 by 4 the product to be 304, to which if we affix the two ciphers in the multiplicand, and that in the multiplier, we shall have the true product—304,000. It will often enable children to apply an approximate test to their work on future occasions, if they be accustomed to answer such questions as these: 50 times 6,500? 325,000. 80 times 70? 500 times 3,400? It is desirable as boys grow up to have the extended

Tables of multiplication fixed in the memory, as it will enable them to perform their operations with greater speed, having less figures to set down, and with much greater accuracy.

(To be continued.)

ON TEACHING AS A PROFESSION.

[*Continued from page* 113.]

We turn to the third class of learned professions, that of the minister or clergyman. It is much more difficult to state the aim of this profession, because people conceive the aim differently according to creed and tradition, and because he may, if he is so minded, identify his aim as a man with that of his profession. Thus, for instance, I hold that it is not an especial aim of the clergyman's profession that he should turn the souls of men to God. This I consider the grandest and noblest work on earth. This work, too, I take it, assumes two forms in the present day in Christian countries. The first, and I believe the highest, is when the preacher, or teacher, or parent, or whoever he be that can do it, takes the child from the earliest years, and, through God's blessing, so trains him in God's ways that he is a child of God from his childhood. The other form is when the preacher, teacher, or whoever else it be, through God's blessing, turns a man who has been self-seeking and selfish to see the necessity and pleasure of having God's reign in his heart, and thus turns him from an earthly and selfish life to a heavenly and divine life. But this is not specially the work of the minister or clergyman. This is the work of every Christian, whatever be his profession; and it is a work accomplished most frequently, not by words, but by the beauty, consistency, and force of a noble Christain life. But then he may identify his duty as a Christian with his duty as a Christian minister, and use the facilities of his professional life for the advancement of this greatest of all objects. But what is his special professional work, what is the object or aim in setting apart a certain number of men for what is called the ministry? I shall set down two aims, according to different opinions. One is where much value is attached to preaching, that there should be a special set of men, thoroughly masters of all theological learning, who shall be able at once to defend the faith against attacks, and fully expound the Bible in its true meaning. Part of their business is of course to urge men to a change of life, as all Christians are bound to do, and to give to those who are attempting to live a heavenly life full directions in their career, encouragement or admonition as may be needed. Then again there are those who think that preaching is of comparatively little use, but who think that the clergyman ought to visit all his flock, to encourage, direct, guide, and console them. Whichever view is taken of the clergyman's functions, it seems to me that their importance and dignity are of the highest. His aim may be defined in one word, to awaken the greatest amount of spiritual life that he possibly can, and no aim could be greater or grander. I am afraid, however, that if we take average cases, we shall find that his work is not so important as its aim would lead us to expect, and that owing to some circumstances connected with his hearers. His hearers may be so ignorant or so hard-worked during the week that they prefer a good nap to his sermon. Or they may have gathered round him because they approved of his views, not to listen to his instructions, but to be pleased with hearing their own opinions well expounded. And their habits and ways of thinking and acting may be so confirmed, that his most eloquent appeals produce no effect.

These are the three learned professions; I might have added two others, which, for real spiritual influence, rank with the clerical, and far above the medical or legal, the press, and the profession of literature. But my purpose is served by taking those usually denominated *learned*.

Now take the teaching profession, and let us see what is its aim? Its special aim is to give a thorough cultivation to the intellectual powers of man, but through the intellectual it aims also at just ideas, and right habits, in regard to physical well-being and all spiritual well-being. The parents are the persons specially bound to look after the whole culture of their children; but the teacher steps in to take part of his work entirely from him, and to help him in all the rest. Now I need not say that, by the very statement of the aim, I have really exhibited the superiority, in importance and dignity, of the teaching profession to those either of medicine or law. I do not think it superior in aim to that of the clergyman. But I think that there are certain advantages on its side which give it strong claims to special prominence. The period of youth is the period when character is formed, when the mind, being flexible and pliant, is shaped. Some maintain that at the age of seven the bent of a man's mind is permanently fixed. I do not think this is true. But I think that not one in ten thousand alters to any considerable extent in the mould of his mind beyond the age of twenty: most are fixed at a much earlier period; and there are exceedingly few who, like Solon, go on learning new methods of thought, and open to new ideas, till old age. Now, the schoolmaster has hold of the child just at the age at which he can act most powerfully over him for good or evil. He does not, like the clergyman, act upon the formed mind at comparatively long intervals. He has the child under his plastic hand, day after day, for hours. In fact, no single person has anything like the same opportunity of influencing the child's mind, except the parents. I do not wish to attribute too much power to the schoolmaster. I believe that public opinion, the family circle, the companions of a child, and many other conscious or unconscious educational agencies, are more powerful than the school or schoolmaster; but take any one single agent in the fashioning of the child's mind, and none, except the parents, and sometimes not even the parents, have the same opportunities and the same facilities for giving the direction to the child's mind. And this influence of the teaching profession is not merely great intensively, but it is equally great extensively. Medical men, as we have seen, after once helping people into the world, have to deal with the diseased only, and solely when they are diseased. Lawyers have to deal with scoundrels and litigious persons, and they see these generally in their worst aspects, or at least in very bad aspects. There are hundreds and thousands of our population who never hear a clergyman, who never see him in their houses. But most people actually have come through the hands of the schoolmaster, and have been for a considerable period, hours every day, under his influence; and those who have not, ought to have been, and I hope will soon be compelled to be. There, then, is a profession which wields mighty power, with vast facilities for influencing the destiny of every man in the kingdom. How does it happen that this profession should stand so low in public estimation?

Various reasons can be assigned for this. One especially stands forward. The public have not come to realise the immense spiritual force exerted by schoolmasters. They have not the slightest conception of what incalculable benefit would accrue to a nation were the whole body of its schoolmasters thoroughly fit for their work, and completely furnished with the best means and methods of carrying on their work. Professed thinkers have long ago seen the power that might thus be brought to bear on mankind, and it were easy for me to quote a long roll of testimonies to this effect. But the great mass of people have a difficulty in estimating spiritual forces, unless they shew their strength in some outward compact aggregate. Now, the teaching profession is not a compact body, but a loose congeries of persons, totally unfit, partially fit, and entirely fit for their work, united by no common organisation, presenting no aggregate front. They say there are 60,000 teachers in England. Suppose that there are 20,000 in Scotland and Ireland. Here we have 80,000. And suppose that these men were all intelligent and up to the mark, that they were united in one organization, and connected by a common tie, would not the influence of such a profession be felt at once and powerfully?

This, then, is the main reason. But it presents itself in various aspects. And I now ask you to look at the matter from the points of view suggested by the comparison of professions which I have instituted. How is it that these professions have gained the respect which has been accorded them?

I think there are two special circumstances which have helped them much: the one, that peculiar technical knowledge and practice have been insisted on as requisite for the exercise of them; and the other, that they have been recognised by government. Both these points are of special interest to us.

Medical, legal, and theological students go through a course of special training. This course fits them for their work, and the want of this course incapacitates a man for being a member of the profession. There is thus a strongly marked line of demarcation drawn between those inside and those outside of each profession. This is not the case in the teaching profession.

Some time ago, a man who was fit for nothing else could earn a livelihood by teaching; and all kinds of people, young and old, ignorant and learned, have set up as teachers without any special preparation. The question that remains for us to answer is, Is this a right or wrong state of things? I answer unhesitatingly that it is a wrong state of things, and I shall give my reasons for so thinking.

A great many people imagine that any one can teach who knows the subject he professes to teach. This opinion shews a complete ignorance of the nature of education, and work of the educator. The teacher has something more to do than simply to make children learn one lesson after another. If he is to do his work thoroughly, every lesson will educe power in the child, and he will be continually conferring impulses in a spiritual direction. The real educator has in his mind the full evolution of the child's powers, and he has to weigh every article of intellectual pabulum according to the amount of force it will have in producing the power which he seeks to educe. He has also his eye on the well balanced evolution of power. To do all this the teacher must be a psychologist. His whole conduct must be directed by the laws of psychology. He has not merely to know his subject, but he has to know what parts of his subject are suitable to the child, what unsuitable. He has to know what method of presenting his subject is in accordance with nature, and what contrary to nature, and therefore injurious to his main object, the evolution of the child's powers. And he must make himself acquainted, not merely with the laws of intellectual evolution, but with the laws of the emotional nature, because he has to deal with the child through the heart as well as the head. I have a strong conviction that this thorough knowledge of psychology, in its application to the nature of children, is absolutely necessary, both from the nature of the case, and from experiences of teachers. From the nature of the case, because it is plain that, however skilful a teacher may be without this knowledge, he is not proceeding systematically to work, he does not know really what he is aiming at, and whether he is using the means suggested by nature, and he may be nonplussed at once by an unusual occurrence. The teacher who has no such knowledge has likely no idea of how to teach, or he has seen some one teaching before, and he merely imitates. In both cases the results will be unsatisfactory.

My conviction is also based on experience. The most difficult task which was ever set me in the teaching way was teaching a sweet little girl, of between three and four years of age, the alphabet. I was a student at college, and an offer was made me of this piece of teaching. I knew my alphabet well enough; but I tried for two months to teach that sweet little child, and failed most completely. The child was timid. She could not sit with comfort beside a stranger. And she could not for sobs utter the names of the letters. And I did not understand her. I did not know how to overcome her fears, I did not know how to draw her attention away from herself, I did not know how to make capital fun out of the A, B, C, and so I had the mortification of failure. I taught Greek in the Edinburgh University, too, and I taught Latin in the Stirling High School, and during the first three years of this my teaching career I was groping in the dark. I had plenty of impulse, and gave that to my pupils in abundance. But, looking back on these years, I know now that I needlessly put difficulties in the way of my pupils, that I was ignorant of the nature of their minds, and made mistakes in consequence. It was not until I had made a thorough study of psychology, as it can and ought to be applied to the minds of boys, that I saw clearly the right methods to pursue, the amount of work to be prescribed, the endless, varied repetition necessary, and many like things. And I feel this also, that one makes great progress in the art of teaching; that, even after you know the right methods, experience widens, and widens your knowledge, gives you a firmer and surer grasp of the boys' minds, and you proceed with greater certainty in regard to the result. I may point to two other facts, as facts of experience, in regard to this matter. The teachers in the great schools of England are all highly educated men, and yet the Report of Commissioners states that their teaching, taking it as a whole, has been a miserable failure. Why? Because most of them do not know how to teach. They employ methods that violate every law of psychology. They persist in practices which psychology pronounces injurious to the human mind. And you will find in the answers of some of them, opinions in regard to teaching, which it is perfectly marvellous that a sane man could entertain. For instance, more than one state that it is better for them not to go into society, but to continue teaching nearly the whole day, because society would turn their minds away from the subject of education, and they would thus get out of the tone requisite for teaching. The men seemed to have no idea of the value of change of exercise and relaxation, both for teacher and pupil. Look from these to the students of our Normal Colleges. These, I am sorry to say, are not always so well educated as they might be. It is certainly not their fault, for if the students had the power, they would make different arrangements. Still, they do study methods of teaching, and learn somewhat of applied psychology. And there is no doubt that they turn out good teachers, that they are well able to use what they have got.

(To be continued.)

(The following Article is from the pen of a Pupil-Teacher, and is printed literatim. It is inserted as an encouragement to others to endeavour to excel in composition.)

A HISTORY OF EDUCATION.

[*Continued from Page* 75.]

During a space of five hundred years extending from the fall of the Western Roman Empire in the close of the fifth century, till about the Norman Conquest in the middle of the eleventh, education gradually declined. Until the beginning of the Feudal times it was almost totally extinct, except in the Greek or Eastern Roman Empire, where the remains of the old Roman learning still lingered; and in Ireland, where a peculiar system of education, said to have been obtained from the Carthaginians, held sway.

By the Saracens however the Greek and Latin learning was preserved during this period, and in certain departments improved. The Arabs, on their conquering Northern Africa, came more in contact with the Greek writings than they had formerly done, and the metaphysical and mathematical treatises of Aristotle, Socrates, Plato, and others of the Grecian philosophers, having exerted a great influence on their minds, were eagerly studied. In a similar manner, treatises on the physical sciences were sought after, and translated into the Arabic tongue. Schools were immediately established throughout all the territory lying between the Atlantic and the Persian Gulf, and, at a more advanced period, in Persia and Spain. At the end of the ninth century, learning had died out in all but the two latter countries, where it still continued to shine with increased brilliancy. Its chief seat in Persia, was Bagdad, which, for several centuries, was famous as a city of letters, and from which many celebrated scholars sprung. It reached the culminating point of its glory in the reign of the Caliph Haroun al Raschid, who is repeatedly mentioned in the Arabian Nights Entertainment, where many accurate descriptions of Persian learning as well as superstitions, may be found.

Tamerlane, the Tartar conquerer, by destroying Bagdad in 1390, put an end to learning in that part of the world, but in Spain it became even more brilliant, than in Persia, and was of greater use to the world. Its chief seat there, was Cordova, originally the capital of the Moorish Caliphs of Spain, where Avicenna and Averroes, two celebrated scholars of the 12th century, were born and educated. The former of these wrote treatises on arithmetic, geometry, astronomy, medicine, logic and metaphysics, and also taught those subjects to a large number of students, both Arabic and foreign. The latter taught law, theology, medicine and mathematics.

In the 10th century Spain was undoubtedly the fountain of learning to Europe, since the attendance of foreign students in the Spanish seminaries was the primary source of the revival of letters in Europe. It possessed an immense number of M.SS. Books both public and private property. The library of the Ommiades or Sovereigns of Spain contained 600,000 volumes, besides other private collections; and there were 70 public reading rooms in various portions of the country each containing from 5,000 to 20,000 volumes.

In 1453 Algebra was first defined as a distinct branch of mathematics and this seems to have formed the acme of Moorish learning, which thenceforth declined until the final expulsion of the Saracens from the Spanish Peninsula.

During this period, in which the Arabs possessed all the learning in the world, the Feudal system held sway in the greater part of Europe, so that education was generally but little valued. The clergy possessed almost all the learning to be found in most countries, and, as they despised the lay portions of the communities for their rude and warlike pursuits as much as the others despised them for their peaceful habits, they imparted but little knowledge to any out of their own body. Notwithstanding the contempt for learning evinced by the laity, magnificent establishments were made for their culture as well as for that of the priesthood.

In France the university of Paris was founded by Charlemagne, who was a munificent patron of learning. At the same time that this was established the Emperor invited Alcuin of England, Clement of Ireland and Theodulph of Germany, to settle in his dominions and, on their complying with his invitation, treated them with marked respect, becoming himself one of their pupils. In addition to these famous names, those of Anselm and Abelard are to be found in the list of teachers who did much to promote the welfare of this institution.

In the 8th century, probably a short time after the foundation of the Paris University, that of Bologna was established. This was particularly celebrated for the study of law, both civil and canonical, while its rival, the Parisian seminary, was more famous for the study of theology. Among the most distinguished teachers at Bologna were Irnerius and Pepo, both teachers of law. At one period in the 13th century the students at Bologna numbered 10,000, while those in Paris exceeded 30,000. Many of the students rose to the highest eminence in the church; one class alone, that of Abelard, contained as many as 20 men who afterwards became cardinals and more than 50 who became bishops. This statement at first appears incredible, but if we consider that a class sometimes contained 4000 pupils and that in those days when learning was scarce, a moderate amount of talent would raise a man to the highest honors, it appears remarkable, instead of being incredible. In those days also learning was judged by a very different standard compared to that by which it is judged in the present day. For example, in the tenth and eleventh centuries, a man who had mastered the trivium, which consisted of Grammar, Rhetoric, and Logic, was said to be able, as John of Salisbury tells us, "to explain all manner of books without a teacher," but he who understood the Quadrivium, which included Arithmetic, Geometry, Astronomy and Music could, according to the same authority, "answer all questions and unfold the secrets of nature," and yet, although these sciences in their present developed state do not form more than one tenth part of the study of a well educated man in modern times, they were then only in their infancy, so that it could be no great difficulty to master them. Arithmetic was more the study of magical numbers than of any thing else, the Astronomy of those days should, in strict propriety, be called Astrology, and as for Geometry, although many students mastered the whole of Euclid, the greater part never got beyond the "asses' bridge."

These studies appear to have been much improved in the course of the next two centuries, so that when the universities of Oxford and Cambridge were established the teachers found that it would be necessary for each of them to confine his attention to one subject. Thus, these were the first institutions which employed different professors for each distinct subject. These two universities maintained a very creditable character, but possessed no teachers of any note, still there were many learned men in England, at this period. In the 13th century Roger Bacon, the greatest scholar of the age published his "Opus Major," containing his researches in chemistry, mechanics, optics, music, geography, chronology, astronomy, geometry, language, grammar, and theology. Another eminent scholar of this age was Robert Grostête, who was noted as an astronomer. In Scotland Sir Michael Scott at this time, occupied the highest place for learning. With the exception of these and a few other learned Englishmen, there were no distinguished scholars in Europe during the 400 years which elapsed between the twelfth and sixteenth centuries, nor did any event of importance to education, occur during this period unless we except the overthrow of the Greek Empire in the fifteenth century, by which the Greek tongue was numbered among obselete languages. But at the close of this period, that is, in the sixteenth century, the foundation of all the present systems of education was laid. Henceforth, then, we have to consider education, not as consisting in the acquirements of the few as heretofore, but in the culture of the masses of the people by means of the great national schemes now in existence.

INTELLIGENCE.

Victoria.—Report of the Royal Commission appointed to enquire into and Report upon the operation of the System of Public Education.—*(Continued from page* 118.*)*

A large school economises the cost of education, and prevents a waste of teaching power. It is desirable that in every school there should be at least five classes. A good teacher can instruct thirty pupils in each class as well as any smaller number. In every locality where the population will admit of it, there ought, therefore, to be one hundred and fifty pupils in every separate school. When there are fewer than five classes, the children, unless they be very young, cannot be properly classified. For example, in a school of forty pupils, with a teacher, having five classes under him for five hours daily, each class would receive the exclusive attention of the teacher but for one hour, whereas were the attendance to reach to one hundred and fifty, a larger staff would be employed and each class would have five hours teaching. In a properly organized school of one hundred and fifty pupils, a child can thus receive a much larger share of attention than in a school with an attendance of only forty.

In the report of the Committee of Council on Education in England, for the year 1865-1866, the complete scheme of organization required for a school of five hundred children is stated to be as follows. The Commission place beside it the scheme of organization of a school of the same size in Victoria, with the staff allowed according to the recommendations in this Report, and the approximate total amount paid by the State in allowance to teachers :—

Departments.	ENGLAND,		VICTORIA.			
	Staff of Teachers.	Total Incomes	Staff.	Amounts payable in Salaries & results (exclusive of School fees.)		
				Salaries.	Results.	Total.
				£	£	£
		£	1 Master	130	...	...
150 Boys.	1 Master	100	1 Assistant	75	...	...
	4 Pupil Teachers	80	3 Pupil Teachers	105	...	...
		180		310	75	385
			1 Mistress	100	...	...
150 Girls.	1 Mistress	70	1 Assistant	60	...	...
	4 Pupil Teachers	60	3 Pupil Teachers	75	...	...
		130		235	60	295
			1 Master or Mistress	100	...	...
200 Infants.	1 Mistress	60	1 Assistant	60	...	...
	1 Assistant	40	3 Pupil Teachers	75	...	...
	2 Pupil Teachers	30		235	60	295
		130	Total...	780	195	975

If the average fee in the boys' and girls' school be ninepence, and in the infants' school, sixpence, allowing 46 weeks to the school year, the fees will amount, in the boys' school, to £258 15s., in the girls' school to £258 15s., and in the infants' school to £230 ; giving a total income to the boys' school of £643 15s., to the girls' school of £553 15s., and to the infants' school of £525. Were each department considered a separate school, the total income, in accordance with the present regulations for the division of the results and fees, would be—

In boys' school for head master, £352 10s. ; for assistant. £186 5s.

In girls' school for mistress, £312 10s. ; for assistant, £166 5s.

In infants' school for master, £293 7s. ; for assistant, £156 13s.

The average annual income of head teachers in Victoria, at the present time' is £222, and of assistants, £101 13s. ; but, in Melbourne, these averages amount respectively to £275 and £113. It will thus appear that, according to the scheme of organization indicated above, a higher staff of teachers would be allowed in Victoria than in England, that they would receive more liberal allowances than at present, whilst, as will immediately be seen, the expense to the State would be much decreased. In Melbourne and its suburbs there are 93 separate establishments, with 127 schools. The number of pupils in average attendance is 12,676. There ought therefore to be only 25 separate establishments, or 75 schools. In each establishment the average attendance is only 136, while it ought to be 500. In each school the average attendance is only 100, while it ought to be 150. Of the average attendance of 12,676, there are about 4,735 children under 7 years of age, 4,552 boys above 7 years of age, and 3,389 girls above 7 years of age. These should be distributed into 30 boys' schools, 22 girls' schools, and 23 infants' schools. The total expense to the State in allowance to teachers for these 12,676 children, amounts to £37,562 16s. 5d., whilst on the liberal scale indicated in the foregoing scheme, it would amount only to £24,825 : thus effecting a saving to the State of £12,737 16s. 5d. per annum in Melbourne and its suburbs alone. Or an expense to the State of about £2, instead of £3 per child, as at present. These evils do not prevail in Melbourne and its suburbs only. They extend more or less to other districts in the colony. For educational, economical and moral reasons, therefore, the Commission recommend that an amalgamation of small schools should forthwith be initiated and vigorously carried out.

(To be continued.)

ORIGINAL CORRESPONDENCE.

(Writers of all communications intended for publication in this Journal must furnish us with their names, not necessarily for publication, but as a guarantee for good faith and correctness. The Conductors of the Journal are not responsible for opinions expressed by correspondents.)

To the Editor of the Australian Journal of Education.

Sir,—Will you favour me with a little space for making a remark or two on some matters referred to by Mr. Sheldon in his letter on the study of the "English Classics." That gentleman prefers the study of English to that of Latin; but why, he has scarcely condescended to inform us. After admitting a great deal of the arguments employed by you in a former leader on Latin study, he goes on to say, that "because Latin is a dead language, and its primitive accent lost, and so on, it, like the Sanscrit, Greek, &c., may be said to exist in a petrified state; and this, coupled with the fact of our possessing authors of the highest standing in all departments of literature—a truth, be it known, I have never heard anyone seriously dispute—therefore, the English should be studied in preference to the Latin!" What wild talk, to be sure! As well say, sir, that, because we have produced the ablest mathematicians the world has ever seen, therefore, we should thrust from the stool the works of such commonplace men as Euclid, Archimedes, and others! As well say, that, since we have produced the profoundest speculators on Government, Society, Morals, &c., therefore we should reject Cicero's and Plato's Republics, and their sublime theories of Philosophy, to which the greatest of men, in all ages, have ever paid homage, and from which they all confess they derived their earliest and noblest inspirations! Now, sir, this, I think, is the gist of one part of Mr. Sheldon's argument in favour of the study of English. Let scholars judge for themselves how much it is worth. Sir, I consider your leading article on the "Study of Latin" to contain arguments altogether unanswerable, both in a logical (as well as pecuniary) point of view. First.—We are told that "although the English language is not equal as a means of discipline to the Latin and Greek, it admits of *precisely the same* (the underlining is mine) methods being applied to its study, &c., and that though there is a difference in *degree*, in *kind* there is none." *Mirabile dictu!* Does not everyone know that all languages admit of (not *precisely*, but) *nearly* the same application of method in order to their acquirement, and that too, whether they be Bungaree, Gaelic, or Hebrew? I should think so. Again, sir, it appears to me that, instead of saying there is a difference in *degree* and none in *kind*, it would be nearer the truth to say that there is a difference both in *kind* and *degree*—especially in the former. Farther on, after admitting that "our language, even in its *purest* form, has not reached such a degree of culture as either of the great classic models, yet," says he, "its resources are as vast, its power of expression as great, and its poetry as exalted as theirs." What have we, I ask, in English with our scanty Accidence, Inflections, and Conjugations comparable with the classic languages? Scarcely anything, I'll be bold to assert, as Mr. Sheldon says: "Furthermore, through the wonderful facility of transposition of clauses, consequent on the numerous, as well as various inflections, the ancients had a power which, to a very great extent, is altogether lost with us." How, then, in the name of the nine Muses, can our tongue—noble in its expressiveness and beauty, though it be—afford anything like the intellectual drill which every Latin scholar knows is unceasingly demanded to construe a Latin sentence with precision and accuracy? So far, sir, as regards the classics. Another error, which Mr. Sheldon, in common with others, appears to labour under, sir, is this, people seem entirely oblivious of the fact that, to be a good classic, you must, of necessity, be a good English scholar; and, indeed, this fact is so patent to all who are capable of thinking of the matter, that to enforce it, were as ludicrous as to try to prove the truth of the axiom "That equals added to equals, the wholes are equal," or any other like truth. Another reason we are given for the preference of English to Latin, consists in this, "That hundreds of men, who have borne the *drudgery* of studying for years the classics, are unable to read a page of Horace or Homer with accuracy, and that, therefore, such studies are not worth the labour bestowed." With equal propriety might it be said that, because hundreds of boobies have borne the *drudgery* of studying for years the English language, without, in the end, being able to write their mother tongue with anything like perspicuity and elegance, that, therefore (you must always have *therefore*) the results of such study are not worth the labour bestowed! As well might it be asserted that, because some (and I mean the hundreds to whom Mr. Sheldon refers) whose obtuseness seems to be oftentimes their only characteristic, after spending years in studying the Mathematics, are mere babes in regard to its intelligent application, that, therefore, the study of Mathematics is altogether useless! Yet this, sir, is precisely the sum and substance of Mr. Sheldon's arguments. Now, sir, in the first place, he who deems *any* study a *drudgery* will never succeed in it, if he were to delve at it to the Greek Calends or the Day of Judgment; and further, those who look upon such studies as either Latin or Mathematics, as merely *drudgery*, and, as a consequence, unworthy their attention, had far better shut up their thinking-shops and go a shepherding, or something else, for they will never succeed as teachers, and are unworthy of their profession if they did. I feel assured, sir, that any man of perseverance in two or three years' steady application could make himself a tolerable if not a good Latin scholar; and that *with* such a powerful auxiliary, he would be an infinitely better English scholar than ever he would *without* it. For, I believe, as Horace says, in his Epistles,—"*Est quadam prodire tenus, si non datur ultra.*"—We can always advance to a certain point, if it be not permitted us to go beyond it; and, consequently, that we can always progress, to a certain extent, in anything to which we bend all the powers of our mind, which God has given us for their exercise and cultivation.

If teachers would only study with half the zeal and determination, which they are often too fond of displaying in matters that do not concern them, they would find, as others *have* found, that the clouds of most, if not all, of the difficulties which, from time to time, beset them, would vanish in proportion as they are acted upon by the beneficent rays of indomitable perseverance.

Apologising for thus trespassing so far upon your space by pleading the importance of the subjects discussed, I must conclude by encouraging my fellow-teachers to adopt the principle laid down by the Mantuan bard:—"*Tu ne cede malis, sed contra audentior ito.*"—Do not give way to dangers (or difficulties,) but on the contrary, go all the more daringly against them, and in time you must and will triumph.

I am, Sir,
Obediently yours,
T. C. D.

TEACHERS' BENEFIT SOCIETIES.

To the Editor of the Australian Journal of Education.

SIR,—I cordially approve of what you have advanced as to the desirableness of Benefit Societies. The view you give of their objects is such, I think, as will commend itself to the notice of Teachers generally; but, as an "Old Schoolmaster," writing in your last No. says—" without aid from the public funds," such societies will prove of very little value. Teachers, many of them with large families and small salaries, and living, as the saying is—" from hand to mouth," would find it a matter of great difficulty, I am sure, to keep up regular payments to any society however liberal its provisions, unless some help were given to them at starting. In all societies of this kind, regularity in the payment of subscriptions is indispensable, and failure in this respect incurs a fine, or even, in some cases, the forfeiture of membership. Now it might very likely happen that, owing to a falling off in the school receipts, or irregularity in the payment of his monthly salary, a teacher would get behind hand with his society dues, it would then be a hard case even to be fined—much harder to be struck off the rolls. I hope, therefore, should Benefit Societies be initiated, that their rules will be adapted to the peculiar and narrow circumstances of teachers.

You express some surprise at the silence of teachers on the matter of superannuation, and infer that, either they do not realise its importance, or that they are too apathetic to move in behalf of their own interests. I feel sure the first of these inferences is not well founded, and am inclined to the opinion that the second is only partly so. It is the very general conviction teachers have that superannuation is a benefit too remote for their realisation—that its attainment is surrounded with difficulties almost insuperable, which makes them silent. Indeed the article inviting their attention to it, holds out no hope of its application to them, until a change in the Act takes place. But your remarks convey the opinion that the Legislature will doubtless be prepared to give a favourable hearing to the claims of teachers for superannuation, whenever the subject is brought before it. Two questions here present themselves—when will this representation be made, and who will make it? Teachers' superannuation has been *talked* of so long, while nothing has been done to accomplish it, that one is tempted to postpone it *ad Calendas Græcas.* This, however, is certain, that unless teachers devise some means of bringing their own claims before the Parliament, matters with them will always be as they are.

The charge of apathy you bring against us is not without some truth, but it is an apathy very easily accounted for, though not to be wholly excused. There needs to be infused into our ranks a little more *esprit de corps.* We are necessarily isolated from each other, and have so few opportunities of cultivating a mutual acquaintance, that combined action among us, for any purpose, seems almost impossible. It will be found, however, ere long, or I much mistake the general aspect of public opinion on the education question, that in many things affecting the credit and interest of our profession, we must put forth united action, or be content to move on in our small orbits from year to year, our claims not recognised in the Legislature, and ignored by the public, while we, as regards social estimation, oscillate between flunkeys and gentlemen.

If, with some modifications, the plan you have sketched of Teachers' Benefit Societies be taken up heartily, and brought into operation, I am sanguine enough to hope that it will do much towards bringing teachers more closely together, seeing that each identifying himself with the movement, will feel that his interests lie in a direct line with those of his fellow teacher.

I beg to suggest that a Circular be at once printed and issued to every teacher for signature, requesting his co-operation in the formation of these societies. So soon as a sufficient number of signatures has been obtained to warrant more active proceedings, let a meeting be called in Sydney, to draw up Rules, applicable, as far as possible, both to a central and to branch societies. The limited circumstances of teachers, in most of the country towns, altogether forbid the construction of independent societies; hence, centralisation is here, at any rate, the least of two evils.

I am, Sir,
Yours respectfully,
J. SHELDON.

To the Editor of the Australian Journal of Education.

SIR,—I am glad to see that my strictures on Dr. Morell's Grammar, contained in No. 3 of your Periodical, have elicited a "few remarks" from "Literaphilus," and thank him for his information. It pleases me much that he approves in part, if not in toto, of what I therein stated; but, as I cannot have the pleasure of a *tête-à-tête* with him, I hope I may, with your further kind indulgence, ask him two or three questions.

Does he mean to say, that a "proper noun" in a transition state is a "common noun?" If so, there is a "distinction without a difference" in Dr. Morell's Grammar.

Would not the time be far more "profitably spent" in explaining a word in common use, and one easily defined, than in trying to affix some meaning to an expression quite unintelligible? For instance, to explain the meaning of *metonymy* to a pupil of the 2nd Class in a School, it would be quite sufficient to say that "it is a mode of speech whereby we put the name of one *idea* or *thing* for another, as *a hercules* for a *strong man*, *gray hairs* for *old* age, &c. Instead, I would humbly suggest, with all due deference to my superiors in knowledge, that all words used *metonymically* would be with more propriety *written* as *common nouns.*

Are not *all* nouns "recognised by the senses?" If so, wherein consists the wisdom of persons trying to confuse youth as well as "gray hairs" by a multiplicity of vague terms? Dr. Morell admits that "knife" and "conqueror" have something in common, for he calls them "class nouns," but distinguishes them, the former as a "sensible" noun, the latter as a "rational" one, which I most humbly submit is a most *irrational* subdivision.

Will "Literaphilus" kindly bring forward any authority to support him in using "*rational*" in the sense he has employed it? I would be very glad of the information. "*Ignorance*" of such an authority is not "*bliss*." Is "a" and "the" the one and the same article in Greek? If this be the case, then *graphē*, and *hē graphē* are the same in signification, and the article *he* is of no value, and is superfluous. In other words, does "Literaphilus" assert that the Greek article (*ho*, *he*, *to*) in every way "corresponds" with the "indefinite article" in English?

Does "Literaphilus" mean to say that verbs have *cases?* I am sure he does not. It must be a mis-print in the last paragraph of his letter, wherein he is made to write "verbs and *their* cases," instead of verbs and the cases they govern.

Does not my friend think, that when we find after a verb, in Latin, two accusatives, one of them is governed by a preposition understood? Take for instance, a similar sentence to the one referred to by me in my remarks on Dr. Morell's Grammar, viz., *doceo puerum literas.* Does it not appear that a preposition (*perhaps ad*) is understood before *puerum?*

Hoping you will pardon me for thus keeping you so long with my pen and ink conversation with "Literaphilus."

I am, Sir, yours faithfully,

Warren, 14th April, 1868. R. P.

To the Editor of the Australian Journal of Education.

Sir,—Although I, a disciple of Murray and Lennie, am a *novus homo* in that part of Grammar called the "Analysis of Sentences," (and from this cause, perhaps, do not sufficiently understand the subject,) yet the "Forms" and "Schemes" for the elucidation thereof, I most humbly confess, are not altogether satisfactory to me. Some are not explanatory enough, and others are too verbose. Among the various "Forms," which is the right one? "Who shall decide, when doctors disagree?"

The most important question is, which will the Examiners of Teachers in the Public Schools look upon as A1? A Teacher may analyse according to the "scheme" of one Grammarian, and the Examiners require a reply according to that of another.

What is the use of a multiplicity of terms, except to mystify the subject? There are "Enlargements," "Extensions," "Adjuncts," "Attributes," &c. Now, what is the difference between "enlargement" and "extension?" Would not the word "adjunct" be quite enough to use with respect either to the "subject," or the "predicate?" For instance, if I were asked to analyse (grammatically) the sentence,—"Remote from towns he ran his godly race." I should say that "he" was the subject, "ran his race" the predicate, "remote from towns" an adjunct of place qualfying the subject, and "godly" an adjunct of manner qualifying the predicate.

I suppose, as the verb "ran" is here used transitively, Grammarians would term "race" the "completion of the predicate," and "his" and "godly" "attributes of the object." Truly, there is nothing predicated of the "village preacher" by saying "he ran" (when the verb is transitive,) but, when you add "his godly race," an affirmation is made. All transitive verbs require an object to be expressed before any statement can be said to be made, *i.e.*, the sense must be complete. Whatever might be added to the sentence I have taken from "The Deserted Village," we might term adjuncts (respectively, as regards time, motive, effect, &c.,) either of the subject or predicate.

In instructing youth (and "*quod munus reipublicæ afferre majus meliusve possumus, quam si docemus atque erudimus juventutem ?*" Brevity, with distinctness, should be the principle on which all treatises should proceed. A maze of needless terms only confuses those to whom you wish to impart knowledge.

With your kind indulgence, and to show my meaning more fully, I will analyse the following sentence, called by many, complex :—" A reader, unacquainted with the real nature of a classical education, will probably undervalue it when he sees that so large a portion of time is devoted to the study of a few ancient authors, whose works seem to have no direct bearing on the studies and duties of our own generation."

1. " A reader," the subject. 2. " unacquainted with the real nature of a classical education," adjunct of cause to the subject. 3. " will undervalue it," the predicate. 4. " probably," adjunct of likelihood to the predicate. 5. " when he sees, &c.," to the end of the sentence, adjunct of time to the predicate.

I am perfectly aware that some Grammarians would give a more detailed analysis of the sentence I chose. For instance, they would talk of " direct object," and " indirect object," " participial phrase," " prepositional phrase," &c., &c. ; but, as I said before, these appear to me only to make something very mysterious of what is anything but a difficult subject, particularly to anyone who has studied Logic. The " complex sentence " is merely a concatenation of simple sentences. In speaking or writing one's ideas upon any subject, the " simple sentence " is always the more forcible. I do not mean to say that we must not enlarge upon any subject. Our sentences, however, should be as laconic as possible.

You must not imagine from what I have said herein, that I am infallible, or think myself so. " *Humanum est errare.*" I trust, if I be wrong in what I have said, your *verbera linguæ* will be mild.

I remain, your obedient Servant,
PHILELPIS.

To the Editor of the Australian Journal of Education.

SIR,—You would confer a great amount of pleasure upon the undersigned by inserting in your " Monthly Journal " the following question, relative to the " Art of Teaching," and any accompanying remarks.

Question on " the Art of Teaching."—What are the uses of a Time Table, and the Principles of its Constructions ?

I should be very glad if some Teacher would answer this question as fully as possible. I should also like to see more interest shewn in questions of this kind, for, I understand, the Art of Teaching, and Practical Skill in the Management of a School, are the most important subjects of a Teacher's Examination. If so, it becomes an imperative duty that all teachers should fully understand questions of this kind, in order to enable them to pass their Examinations successfully, and to become efficient instructors in the Schools to which they may be sent.

In conclusion, I think that if articles on the " Art of Teaching " were inserted in this Journal, both for Pupil-Teachers and others in the profession, it would be a great benefit to all parties.

Apologising for my intrusion on the space in your valuable Journal,

I remain, Sir,
Your obedient Servant,
A PUPIL-TEACHER.

Sydney, April 8, 1868.

NOTICE TO CORRESPONDENTS.

MAGISTER.—We have not time to look for the particular passage to which you refer, and in the absence of such reference, we cannot fully comprehend your questions. Should you point out where Sir J. Herschell says so, they will have our attention next month.

A PUPIL-TEACHER.—Your question is not intelligibly worded.

C. R. P.—We fully concur with your remarks respecting the impediments in the way of educating youth; but as your article, even if published, would be read by only comparatively few parents, and by still fewer able to understand it, about one-third of it consisting of Latin quotations without translation, we do not see that its insertion would be of much benefit.

LATINUS.—If you do not succeed with your Latin at the School of Arts, it is doubtful whether you would be more successful at the place you mention.

PHILOS.—It is perhaps desirable that the question relating to a Teachers' Benefit Society should be better ventilated, ere such a step as you recommend should be taken.

M. A.—Your reply to "A Bush Teacher" is rather beside the question. The improvement of a Teachers residence, the planting of a garden, and the ornamentation of the borders of a playground with flowers, &c., are very different matters from holding schools in churches.

THE COLOSSUS OF RHODES.—We have received a great number of communications in answer to "Perseverando," who, our correspondents inform him, will obtain the information he desires in "Rollin's Ancient History," Vol. II., p. 575; Vol. III., p. 103; in "Wonders in Nature and Art;" "The Seven Wonders of the World," &c., &c.

A TEACHER.—Your enquiries respecting the payment of Salaries should be addressed to the Secretary of the Council of Education.

AMICUS.—Received.

DUCK-BILLED PLATYPUS.—We are in receipt of several excellent notices of this extraordinary creature, one of which we shall publish in our next.

PHILELPIS.—The third and fourth questions you propose would, we fear, puzzle but not enlighten our readers. They are omitted for that reason.

QUESTIONS FOR SOLUTION.

1. A piece of meat is weighed, first in one scale, and then in the other; in the first, its apparent weight is 30 lbs., and in the second, 72lbs. What is the true weight? PHILELPIS.

2. A gentleman leaves one-half of the money he had in the Bank to his two sons, one-half of what was left to his nephew, and the rest £560 10s. to his wife. How much had he in the Bank? PHILELPIS.

3. If a person gain $8\frac{1}{3}$ per cent., by selling apples at the rate of 8 for $6\frac{1}{2}$d., how much does he gain per cent., by selling them at the rate of 3 for $2\frac{1}{2}$d. A. A.

4. If a man travelled from his own house to Sydney in 4 days, and home again in 5 days, travelling each day, during the whole journey, one mile less than he did the preceding. How far does he live from Sydney? A. A.

N.B.—To be solved by Arithmetic.

5. The sum of the first and second of four numbers in geometrical progression is 15, and the sum of the third and fourth 60. What are the numbers? A. A.

6. Give the sum of the sides, the vertical angle, and the difference of the segments of the base, made by a perpendicular from the vertical angle. Construct the triangle. A. A.

7. Wherein does the fallacy of the following syllogism consist?

It is a sin to kill a man;
A murderer is a man;
Therefore it is a sin to kill a murderer. PHILELPIS.

8. Show the error of the following syllogism given as an example of the "Illative" Relation in a Combined Sentence in No. 4 of the Australian Journal of Education.

A is equal to B.
C is equal to B.
∴ A is equal to C. PHILELPIS.

FOR OUR LADY READERS:—

a. Place the numbers 1 to 9 in a square of three lines so as to count 15 whichever way they may be added.

b. Place the numbers 1 to 16 in a square of four lines so as to count 34 whichever way they may be added.

c. Place 1 to 36 in a square of six lines so as to count 111, also added vertically or horizontally.

STELLA.

ANSWERS TO QUESTIONS IN No. 4.

Question 1.—Solved correctly by A. A., E. Walker, E. Hewison, J. F., M. B., Mudgee, and Scrubber. Answer: 5080.5 gallons.

Solution by A. A.:—

The tank is the frustrum of a cone. If (m) and (n) represent the top and bottom diameters respectively, $\mathrm{M} = .7854$ and h = height,

the formula is $\left(\frac{m^3-n^3}{m-n}\right)\frac{\mathrm{M}h}{3}$ = solid content.

After reducing the dimensions to inches, the solid content $= \frac{159^3-112^3}{156-112} \times \frac{.99}{3} \times .7854 = \frac{3796416-1404928}{44} \times 33 \times .7854 = 54352 \times 33 \times .7854 =$ 1408706·0064 cubic inches, and 1408706·0064 ÷ 277·274 = 5080·5 gallons.

Question 2.—By John Brown, A. A., Church Hill, D. A., Doctum, E. Walker, E. Hewison, J. McDowell, J. J. W., J. O'R., J. and W. Hullick, J. F., J. Buckley, Literaphilus, M.B., Mudgee, Scrubber, W. W. B., and R. C. Answer: 30.39342 yards.

Solution by John Brown—

The area of a square, whose side is 20 yds. = 400 yds.

The area of an equlateral triangle $= \frac{\text{A B}^2\sqrt{3}}{4}$

$\frac{\text{A B}^2\sqrt{3}}{4} = 400$ and $\text{A B}^2 = \frac{1600}{\sqrt{3}} = 923.76$

A B, the side required $= \sqrt{923.76} = 30.39342$ yards.

Question 3.—By W. W. B., A. A., Church Hill, E. Hewison, J. McDowell, J. F., Scrubber, W. S., and R. C. Answer: The prism will roll and not slide.

The following is a solution by W. W. B.:—

A regular pentagon contains five equal isosceles triangles, and by Euc. I. 15. Cor. All the angles made by any number of straight lines meeting in a point are together equal to four right angles, or 360 deg. ∴ the angle at the vertex of each of the triangles in the pentagon is $\frac{360}{5}$ or 72 deg. And by Euc. I. 32., the three angles of every triangle are together equal to two right angles, or 180 deg. It follows that the angles at the base of each of the triangles together measure 180 − 72 = 108 deg.; and as the triangle is isosceles, by Euc. I. 5., these angles are equal, *i.e.*, each 54 deg. Now as the pentagon is placed on an inclined plane, whose angle is 40 deg., the side of the triangle will incline 54 + 40 = 94 deg. from the horizontal, and the vertex, which is the centre of gravity, will overhang 4 degrees. The prism will consequently roll and not slide.

THEOREM 4.—By A. A., Church Hill, D. A., Doctum, J. McDowell, J. and W. Hullick, J. F., J. Buckley, Literaphilus, M. B., P. Downey, Scrubber, W. W. B., and R. C.

Question 5.—By Joseph Taylor, A. A., E. Hewison, J. McDowell, John Brown, J. and W. Hullick, J. Buckley, Literaphilus. Answer: C is 4596.102 yards distant from A and 4584.53 from B.

The following is the solution by Joseph Taylor:—

180 deg. − (83 deg. 45 m. + 85 deg. 15 m.) = 11 deg., the angle C.

To find the side CA.

Sin. of C : sin. of B :: AB : CA

or,

L, sin. C, 11 deg. = 9.2805988
L, sin. B, 85 deg. 15 m. = 9.9985058
L, AB, 880 = 2.9444827

12.9429885

L, CA, 4596.102 = 3.6623897

To find CB.

Sin. of C : sin. of A :: AB : CB,

or,

L, sin. C, 11 deg. = 9.2805988
L, sin. A, 83 deg 45 m. = 9.9974110
L, AB, 880 = 2.9444827

12.9418937

L, CB, 4584.53 Yards. 3.6612949 Yards.

Therefore C is 4596.102 from A, and 4584.53 from B.

Question 6.—By J. Buckley, A. A., Church Hill, D. A., E. Walker, Doctum, E. Hewison, J. McDowell, J. J. W., John Brown, J. O'R,, J. and W. Hullick, J. F., H. F., Literaphilus, M. B., P. Downey, Scrubber, and W. S. Answer: 72 bees.

The following is the solution by J. Buckley:—

Let $8x^2$ = the number of bees.

By the question $2x$ = the number that flew away at first flight.

Again " " $\frac{64x^2}{9}$ = the number that flew away at second flight.

Again " " 2 = the number that were left.

Then $2x + \frac{64x^2}{9} + 2 = 8x^2$

Clear of fractions $18x + 64x^2 + 18 = 72x^2$

By transposition $-8x^2 + 18x = -18$

Multiplying each side by 1 $-8x^2 + 18x = 18$

Dividing each side by 2 $-4x^2 - 9x = 9$

$$x = 9 \pm \frac{\sqrt{81 + 144}}{8}$$

$$\begin{array}{r} 144 \\ 81 \\ \hline 225 \\ 1 \\ \hline 125 \\ 125 \\ \hline \end{array} \quad 25 \quad \overline{)\,15}$$

$$x - \frac{9 \pm 15}{8} = \frac{24}{8} = 3 \text{ or } -\tfrac{3}{4}$$

$x = 3$ then $8x^2 = 72$ the required number of bees.

Question 7.—By A. A., E. Hewison, J. McDowell, J. O'R., J. F., J. Buckley, H. F., M. B., Scrubber, and E. Walker. Answer: 3 or—2.

The following is the solution by A. A.:—

Let x = the Number,

Then, by conditions of the question $x^4 - 2x^3 + x = 30$

Add and subtract x^2 and, $x^4 - 2x^3 + x^2 - (x^2 - x) = 30$

or $(x^2 - x)^2 - (x^2 - x) = 30$

Complete the square and $(x^2 - x)^2 - (x^2 - x) + \frac{1}{4} = 30 + \frac{1}{4} = \frac{121}{4}$

Extract the square root and $(x^2 - x) - \frac{1}{2} = \pm \frac{11}{2}$

Transpose and $x^2 - x = \frac{\pm 11 \times 1}{2} = 6 \text{ or } -5$

Complete the square and $x^2 - x + \frac{1}{4} = 6 + \frac{1}{4} \text{ or } 5 + \frac{1}{4}$

$$= \frac{25}{4} \text{ or } -\frac{19}{4}$$

Extract the square root and $x - \frac{1}{2} = \pm \frac{5}{2}$ or $\pm \sqrt{-\frac{19}{4}}$ which being irrational reject.

$$\therefore x = \frac{\pm 5 + 1}{2} = 3 \text{ or } -2$$

Question 8.—By Scrubber, J. McDowell, and John Brown.

The following is the solution by Scrubber:—

Let x = No. of miles travelled by A at the time of meeting B.
and y = No. of days occupied in travelling.
Then $\frac{x}{y}$ = No. of miles per day, A's rate of travelling.
By the question $x - c$ = No. of miles travelled by B at time of meeting A.
then $\frac{x-c}{y}$ = No. of miles per day, B's rate of travelling.

By the question $d\left(\frac{x}{y}\right) = x - c$

and $f\left(\frac{x-c}{y}\right) = x$

Simplify, clear of fractions

and $(y - d)\,x = cy \qquad (a)$
$(f - y)\,x = cf \qquad (b)$

By equation (a) $x = \frac{cy}{y - d}$

„ (b) $x = \frac{cf}{f - y}$

Therefore $\frac{cy}{y - d} = \frac{cf}{f - y}$

Clear of fractions and $cfy - cy^2 = cfy - cdf$
Collect, change signs and divide by c and $y^2 = df$
Extract the square root and $y = \sqrt{df}$
Substitute for y in (b) and $(f - \sqrt{df})\,x = cf$
Divide by $\sqrt{f}$ and $(\sqrt{f} - \sqrt{d})\,x = c\sqrt{f}$
Divide by $(\sqrt{f} - \sqrt{d})$ and $x = \frac{c\sqrt{f}}{\sqrt{f} - \sqrt{d}}$ No of miles travelled by A at meeting.

$$x - c = \frac{c\sqrt{f}}{\sqrt{f} - \sqrt{d}} - c = \frac{c\sqrt{f} - c\sqrt{f} + c\sqrt{d}}{\sqrt{f} - \sqrt{d}}$$

$= \frac{c\sqrt{d}}{\sqrt{f} - \sqrt{d}}$ No. of miles travelled by B.

$\frac{c\sqrt{f}}{\sqrt{f} - \sqrt{d}} + \frac{c\sqrt{d}}{\sqrt{f} - \sqrt{d}} = \frac{c(\sqrt{f} + \sqrt{d})}{\sqrt{f} - \sqrt{d}}$ No. of miles distance of the cities from each other.

[We hope our correspondent, E. Hewison, who desired to have this question solved, in order that it might be seen wherein the solution of this question at the present day differs from that at one of the English universities 100 years ago, will furnish us with the practised method then.—EDS.]

Question 9.—By A. A., J. F., J. McDowell. J. Buckley, and M. B.

Solution by J. F.:—

Transposing $x^4 - 2x^2 = 9999 + 400x$
Add to both sides $1 + 4x^2$ and then $x^4 + 2x^2 + 1 = 10{,}000 + 400x + 4x^2$
Each side is now a complete square. Extract the square root and
$x^2 + 1 = 100 + 2x$ then $x^2 - 2x = 99$

Complete the square and

$$x^2 - 2x + (1)^2 = 99 + 1 = 100$$

Extract and then

$$\begin{aligned} x - 1 &= \pm 10 \\ x &= \pm 10 + 11 \\ &= 11 \text{ or } - 9 \end{aligned}$$

Question 10. The answers to the questions on parsing are of a most unsatisfactory character, as regards both matter and method. Instead of giving a solution, we therefore insert an analysis of the various answers we have received. The different answers are separated by semicolons.

a. *What*	Is parsed as an adjective qualifying the noun " dismay " ; as an interrogative pronoun ; as a pronoun relative compound.
b. *More than*	A " preposition ;" a " prepositional phrase." [It is hardly necessary to point out that this mode of evading a difficulty, cannot be accepted as a solution. There is no part of speech called a " prepositional phrase."]
More	An adjective qualifying the noun " money " understood. [The construction is not given, but the following seems to be intended :—" She had more money by sixpence than three shillings are." The expression to be parsed is obviously elliptical.]
Than	A conjunction, joining clauses ; a conjunction with the force of a preposition ; a preposition governing " shillings."
Shillings	Noun, third per. plural, neuter, obj., governed by " than " ; noun, obj. case by the *conjunction* " than " ; noun, obj. case, governed by the prepositional phrase " more than."
c. *Alike.*	Adjective, qualifying the subject " they " ; adverb, qualifying the adjective " each," understood, *i.e.* " alike to each other ;" adverb, modifying " are ;" an adjective qualifying " animals ;" taken with are it means resemble, so that it may be considered as part of the verb, and may be parsed as such, having (" each other "), or it may be used as an adverb.
d. *Why*	An interrogative adverb, modifying the verb " think ;" a common noun, obj. case governed by " think." " Why is equivalent to saying for what cause or reason, or why is this so—and therefore supplies the place of a noun in the objective case governed by 'for' understood before it. Compare the French word pourquoi." [The sense of the passage has been missed by all our correspondents. *Why* limits a verb understood. The meaning is not *why you think*, but think *why* a goat's hoof *is* more like a sheep's than a horse's hoof. EDS.]
All	Adverb qualifying " stood ;" " an adverb it means entirely ;" adverb modifying the verb " was feeding ;" adverb qualifying " alone " understood.
e. *Other*	" is a kind of complement to somewhere : somewhere or other is an adverbial phrase, and may be parsed as an adverb of place qualifying " grow ;" " adjective indefinite numeral qualifying 'place' understood ;" " other is as much an adverb of place as is 'somewhere' in the same sentence ;" " somewhere or other may be parsed as two nouns, sing. neuter, obj. governing (in)." [These are terribly wild speculations. " Somewhere " and " other " *may* be parsed as two nouns—or as two quadrupeds—but we fear that the two conjectures would be regarded as equally unsatisfactory by the Examiner. EDS.]
As good as	An adverbial phrase : compound conjunctional phrase ; a conjunctional phrase of comparison : adverbial clause modifying the adjective " those." [This is not *parsing* but *phrasing*, which is not required by the question. EDS.]
As	An adverb modifying the adjective " good." A.A.

Good	Adjective qualifying "plants" understood. A.A.
As	Conjunction joining two clauses. A.A.
Care	"Originally a noun, is so closely connected with the verb takes that it is now reckoned a part or complement of that verb;" noun, 3 per. *sing.* neuter, nom. to verb *are* taken;" an adverb modifying the verb "are taken:" "noun, sing., nom. to "is"—*i.e.*, of which care is taken." [As suggested by J. O'R., the expression is ungrammatical, though not uncommon. Such a sentence as "I was offered a situation" is of frequent occurrence, when the speaker means "a situation was offered to me." In the passage under consideration, the correct form would be "of which care is taken." What is "taken?" Not "which," but "care." EDS.]
f. *All*	Adverb modifying "through;" adverb qualifying "is;" adjective qualifying the noun "way" understood; an indefinite numeral adjective qualifying "places" understood; "all through" being equivalent to "throughout" is a preposition showing the relation between 'climate' and 'S. Europe.'" ["Through *all* Southern Europe." "All over the world," or, "All the world over," are similar expressions and may be resolved in the same way—"Over all the world." The adjectival nature of 'all' then becomes evident. EDS.]
g. *Even*	An adverb, qualifying "falls"; a comparative adverb.
Victim	A common noun, third pers., sing., neuter, nom. case after "falls." "Common noun, sing. neuter common gender, obj. by—prep. "a"; "noun common, sing., neut., obj., governed by transitive verb 'falls'"; noun, nom. to "falls" understood after it, *s.c.* "falls as a victim falls." [The first and last solutions are admissible, but the second and third must have been penned when the writers were dozing. EDS.]
h. *All*	Adverb modifying the adjective "this"; a common noun. third per. sing., neuter, nom. to "is"; a collective adjective, qualifying "this," here used absolutely for a noun; indefinite adjective pronoun, &c. [Adjective, limiting some noun understood after "this," *e.g.* "All this argument," reasoning, circumstance, narration, &c. EDS.]
i. *Lion*	The only difficult word, nom. in apposition with "he."
j. *What*	May be regarded as an interjection, as it has no connection with any other word in the sentence. [A difficult usage of the word "what." Supplying the obvious ellipsis, we should get—"To what extent (or degree) with birds, &c." In this case, "what" is an adjective limiting the word "extent" or "degree" understood. EDS.]

Question 11. Answered by Mudgee, W. W. B., P. Downey, A. A.

We append a solution, remarkable for great want of due considerasideration:—

a. The state of the world:—Prin. Subj. with enlargement.
b. is such (a state):—Prin. Pred. to *a.*
c. (and) so much:—Enlargement of *d.*
d. depends:—Pred. to *a.*, (co-ordinate with *b.*)
e. on action:—Indir. object to *d.*
f. that every thing:—Subject to *g.*
g. seems } Predicate to *f.*
h. to say }
i. aloud to every man:—Extension and Indir. obj. to *h.*
k. "Do it, do it, do it.":—Direct obj. to *h.*

The following is Mudgee's answer:—

Distinguishing Letters.	CLAUSES.	NAMES OF CLAUSES, AND THEIR RELATIONS TO EACH OTHER.	CONNECTIVES.	SUBJECT.		PREDICATE.				
							COMPLETION.			
				Enlargement of Subject.	Simple Subject.	Simple Predicate.	Object.	Attribute.	Extension of Predicate.	Kind of Extension.
A.	The state of the world is such,	Principal Clause co-ord. to *B.*	...	of the world	The state	is such	...	...	...	...
B.	and so much depends on action,	Principal Clause co-ord. to *A.* in the Cop. Relation.	and	so	much *	depends	on action	...	...	...
c.	that everything seems to say aloud—	Adverbial Clause to *A.* and *B.* (consequence.)	that	...	everything	seems	to say	...	aloud	manner.
d.	Do something,	Substantival Clause, (object to *c.*)	...	...	(you)	do	something	...	...	...
	do it,	Substantival Clause, (object to *c.*)	...	...	(you)	do	it	...	...	...
e.	do it.	Substantival Clause, (object to *c.*)	...	...	(you)	do	it	...	...	...

A Compound Sentence.

[* This view is open to question.—EDS.]

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TEACHERS' LIBRARIES.

We have been informed that the Council of Education has aided a small but vigorous Society of Teachers on the Macleay River in establishing a Library for their use. It is understood that the Council has offered to pay one-half of the cost of approved books. The Macleay Teachers deserve credit for their energy in this matter, and we shall be glad to see their example generally followed.

The United Teachers' Association recently formed at Bathurst has omitted from its "Laws" all reference to the question of a Library for the common use of its members, although the design of creating so useful an aid may not have been overlooked. But it deserved as prominent mention, at least, as the "Teachers' social position" which the members are to discuss, and a Library would prove far more useful in practical results. In saying this we have no desire to impute blame to the Bathurst Teachers, but rather to give a hint to others who may wish to establish new Societies.

A Teachers' Library cannot well be established unless a Teachers' Association has been previously formed. The direct benefits of such associations, when properly conducted, are considerable; but apart from the actual information to be gained, we are inclined to set a high value upon the esprit de corps likely to be developed by the meeting of Teachers *as Teachers.* If Teachers are ever to form an organized body in this community, the formation of local associations must be the first step, and the experience and training there acquired will be the best preparation for united action in the larger sphere.

The usefulness of Teachers' Associations in a professional point of view would be greatly restricted without a Library for reference. Supposing it to consist of standard works upon subjects in which Teachers are interested, it is plain that the meetings of the Association would be looked forward to as occasions when all the accumulated difficulties of the preceding week or fortnight could be solved. To hunt up a date, or verify an obscure fact, may occupy much time and require considerable research, in which, if requisite, other members could assist.

Another advantage derivable from a Teachers Library is the opportunity it gives of studying systematic treatises and of reading works of a more general kind than most Teachers can afford to purchase for themselves. Although in the main a Teachers' Library would have a special character distinctive of the profession—as the library of a Law Society would naturally consist principally of books on legal subjects—yet it need not be exclusively composed of books of that nature, but may properly contain works on topics of general interest.

There is a further reason for instituting Teachers' Libraries—the undesirableness of Teachers cumbering themselves with a large number of books. A Teacher who has the greater part of his professional career before him, may expect some removals before he finally settles down into the position he has aspired to. In such circumstances, a large number of books would be both costly and troublesome to remove, and there would be great risk of loss or damage.

ANALYSIS OF SENTENCES.

(*Resumed from No.* 5.)

THE ADJECTIVAL CLAUSE.

90. The Adjectival Clause *(Art.* 20) is one which, in reference to the principal clause, occupies the place, and follows the construction of an Adjective.

Sometimes this is called the *Attributive* and also the *Relative* Clause. This clause is most commonly introduced by the Relatives, *who*, *which*, *that*, and *what*; but *wherein*, *whereto*, *whereof*, and *whereby* are occasionally employed, as in the following examples :—

Which . .	The name *which* he inherited was time-honored.
Who . .	The person *who* last spoke was inaudible.
That . .	The animosity *that* existed between the parties was incredible.
What . .	You seek *what* will never be found.
Whereof .	The scheme *whereof* I spoke proved a failure.
Wherein .	Have you discovered *wherein* his strength lies?
Whereto .	The destiny *whereto* they tend is unknown.
Whereby .	The means *whereby* he effected the change are unknown.

91. Occasionally the Relative is omitted, as—"The soil we cultivated was always productive;" *i.e.*, The soil *which* we cultivated was always productive.

92. As the office of an Adjective is to qualify a noun or limit its meaning, it will therefore follow that the *Adjectival Clause* may be used as a qualification to nouns forming subjects, objects, or extensions of the Predicate. Examples:—

I. As qualifying the Subject: We, *who formerly were slaves to vice*, now delight in purity of morals.

II. Two or more Adjectival Clauses used to qualify the Subject: He *who sedulously attends, pointedly asks, calmly speaks, and coolly answers*, is in possession of some of the best requisites of man.

III. As qualifying the Object: I love them *that love me.*

IV. Two or more Adjectival Clauses used to qualify the Object, or word that takes the place of the Object:—

Vice is the cruel enemy, *which renders men destructive to men; which racks the body with pain, and the mind with remorse; which produces strife, faction, revenge, oppression, and sedition; which embroils society; which kindles the flames of war, takes away peace from life and hope from death; which brought forth death at first, and has ever since clothed it in all its terrors; which arms Nature and the God of Nature against us; and against which it has been the business of all ages to find out provisions and securities by various institutions, laws, and forms of government.*

V. As qualifying the Extension of the Predicate: We carried her to the place *which she indicated.*

VI. Two or more Adjectival Clauses qualifying the Extension of the Predicate: His attention was given to the history of that splendid literature, which has descended from remote times, which has been the constant study of the learned, which has been alike the delight of the exalted and of the humble, and from which has sprung the strength, the wisdom, and the freedom of the West.

93. Adjectival Clauses may be found attached to the Subject, and also attached to the Extension within the same sentence. Example:—

He, *who cannot persuade himself to withdraw from society*, must be content to pay a tribute of his time to a multitude of tyrants—to the loiterer, *who makes appointments he never keeps;* to the consulter, *who asks advice he never takes;* to the boaster, *who blusters only to be praised;* to the complainer, *who whines only to be pitied;* to the projector, *whose happiness is to entertain his friends with expectations, which all but himself know to be vain;* to the economist, *who tells of bargains and settlements;* to the politician, *who predicts the consequence of deaths, battles, and alliances;* to the usurer, *who compares the state of the different funds;* and to the talker, *who talks, only because he loves to be talking.*

94. When the Complex Sentence contains two or more Subjects, and has Adjectival Clauses qualifying each, the force of the whole is sometimes collected or summed up by one expression, which represents the original subjects, or is placed in

apposition with them as nominative to the verb forming the Predicate. Example:—

> "The armaments, which thunderstrike the walls
> Of rock built cities, bidding nations quake
> And monarchs tremble in their capitals—
> The oak leviathans, whose huge ribs make
> Their clay creator the vain title take
> Of Lord of thee and arbiter of war,
> *These are* thy toys." * * *

95. The co-ordinacy of Adjectival Clauses must be determined by the degree of relationship in which they stand to the principal clause, and to each other. All the subordinate clauses in a sentence may be Adjectival; but it does not follow that they are on this ground co-ordinate. See Specimen form.

Examples for Analysis.

They who duly appreciate the blessings of liberty, revolt as much from the idea of exercising as from that of enduring oppression.

They that seek me early, shall find me.

The son dissipated all the property which his father had acquired.

I warned them of the danger they incurred.

If there be, what I believe there is, in every nation, a style which never becomes obsolete, a certain mode of phraseology so consonant and congenial to the analogy and principles of its respective language as to remain settled and unaltered, this style is to be sought probably in the common intercourse of life, among those who speak only to be understood without ambition of elegance.

Antiquity, like every other virtue, has undoubtedly votaries that reverence it, not from reason, but from prejudice.

The reverence due to writings that have long subsisted, arises not from any credulous confidence in the superior wisdom of past ages, or gloomy persuasion of the degeneracy of mankind.

This is a common complaint with those who, being filled with chagrin, care not to scrutinize their own hearts, who imagine themselves to be blameless, and who, too prejudiced to be convinced of error, impute their own misfortunes to the agency of others.

Those are often raised to the greatest transports of mirth who are subject to the deepest depressions of melancholy.

Mirth is like a flash of lightning which breaks through gloomy clouds and glitters only for a moment.

True modesty is ashamed to do anything that is repugnant to the rules of right reason.

False modesty is ashamed of that which may be opposed to the humour of the company.

He who resigns the world, has no temptation to envy, hatred, malice, or anger.

Him that nothing will satisfy, let him have nothing.

Those who cannot have what they like, must learn to like what they have.

There is nothing in the world that is really beneficial, that does not lie within the reach of an informed understanding and a well directed pursuit.

A cheerful temper joined with innocence will make beauty attractive, knowledge delightful, and wit good natured.

To the south of the Cantabrian Mountains, the interior of the Spanish Peninsula forms a high plateau or tableland which extends southward as far as the chain of the Sierra Morena, and which sinks gradually on the west to the shores of the Atlantic, towards which its slope is directed by the long river valleys which traverse it in an east and west direction.

The tender thrill, the pitying tear,
The generous purpose nobly dear,
The patient look that rage disarms,
These are all immortal charms.

The caravan that in mid journey sunk
With all its merchandise, expected long
And long forgot, engulfed beneath the tide
Of Death that the wild spirit of the winds
Swept in his wrath along the wilderness—
In the wide desert woke.

"But first, whom shall we send
In search of the new world? Whom shall we find
Sufficient? Who shall tempt with wandering feet
The dark, unbottomed, infinite abyss,
And through the palpable obscure find out
His uncouth way, and spread his airy flight
Upborne with indefatigable wings
Over the vast abrupt."

Those dreams of greatness, those unsolid hopes
Of happiness, those longings after fame,
Those restless cares, those busy, bustling days,
Those gay spent, festive nights, those veering thoughts,
Lost between good and ill, that shared thy life—
All now are vanished.

Oh! the mossy marbles rest
On the lips that she has pressed,
Long since, in their bloom.

Specimen of Analysis of Complex Sentence with Adjectival Clauses—

Him shall I praise, who, o'er the new-sown earth,
Crumbles the clods that hide the entrusted birth,
Who freshens with streams, which at his pleasure glide,
And leads their rills, that wind from side to side.

Distinguishing Letters.	CLAUSES.	NAMES OF CLAUSES, AND THEIR RELATIONS TO EACH OTHER.	CONNECTIVES.	SUBJECT.		PREDICATE.					REMARKS.
							COMPLETION.				
				Enlargement of Subject.	Simple Subject.	Simple Predicate.	Object.	Attribute.	Extension of Predicate.	Kind of Extension.	
A.	Him shall I praise,	Principal Clause to *b*, *c*, *d*, *e*, *f*, *g*.	...	...	I	shall praise	him	...	...	...	In this translation from Virgil, it will be perceived that the law of co-ordinacy is peculiar. The three clauses directly connected with the principal clause, are co-ordinate. The other three are more indirectly connected with the principal clause, and are not co-ordinate.
b.	who, o'er the new-sown earth, crumbles the clods	Adjectival Clause to *A:* co-ord. to *d* and *f*.	...	...	who	crumbles	clods	the	over the new-sown earth	Adjunct of place.	
c.	that hide the entrusted birth,	Adjectival Clause to "clods" (*b*).	...	...	that	hide	birth	the entrusted	...	...	
d.	who freshens with streams,	Adjectival Clause to *A:* co-ord. to *b* and *f*.	...	...	who	freshens	...	...	with streams	Adjunct of means.	
e.	which at his pleasure glide,	Adjec. Clause to "streams" (*d*).	...	...	which	glide	...	...	at his pleasure	Adjunct of manner.	
f.	And leads their rills,	Adjec. Clause to *A:* co-ord. to *b* and *d*. Contracted in the subect.	and	...	(who) *understood*	leads	rills	their	...	...	
g.	that wind from side to side.	Adjec. Clause to "rills" (*f*).	...	...	that	wind	...	...	from side to side	Adjunct of manner.	

HOW TO WRITE AN OFFICIAL LETTER.

The "Art of Putting Things" is one of no mean utility. Whether a teacher shall succeed in his instruction, a reasoner convince by his argument, or a petitioner obtain his desire, will depend in a great measure upon the manner in which each may state his case. One person fails in his suit from ignorance of its true merits; another, no whit better, is successful because he knows exactly what to say in his own favor and when to say it. Offence is given by A from his blunt incautious way of informing B of a fact, while C, who says the same thing in a proper manner, is thanked for his valuable suggestion. But that some one has already written an essay on this useful "Art of Putting Things," the charms of the subject would have tempted us to venture upon the task. Our present purpose is more definite, though perhaps not less useful in a practical point of view.

The writing of a letter, whether it be a billet-doux or an official despatch, is an application of the Art of Putting Things. We propose to deal with the official letter only, though our remarks upon this head will, in general, apply with equal force to communications on matters of ordinary business. It will be seen in the sequel that what is erroneously termed "common" sense is the chief element of success in letter writing, though no one can be regarded as highly accomplished in the art unless he possesses that more refined and subtle kind of sense designated "tact."

Why do people write official letters? There are at least four principal objects to be obtained by so doing, viz.:—

1. To communicate some information deemed to be necessary or valuable.
2. To ask for information.
3. To prefer some request.
4. To convey some direction.

Each of these heads may be subdivided with various degrees of minuteness, but these four will suffice for our present purpose. It must be remarked, however, that the *form* or *manner* in which either of these things is done will be influenced by various considerations. For instance, a person may write a letter communicating information—

1. Under instruction from competent authority.
2. Under a law or rule he is bound to observe.
3. Under no compulsion but his own sense of what is fit and proper.

Letters of the first and second kinds are properly termed Reports.

Again, he may ask for information—

1. To enable him to carry out instructions.
2. To enable him to obey rules.

3. To enable him to decide some question of fact, rule, or principle.
4. With no immediate object, but simply for his own satisfaction, or with a view to future use.

Further, he may prefer a request—

1. As a right to which he is entitled by regulation or express promise.
2. As a right to which he is entitled as a matter of equity.
3. As a simple favour.

Lastly, he may give some direction—

1. As a person possessing the requisite authority.
2. As the agent of the real possessors of power.
3. As the interpreter of a rule.

It is obvious that while the general cast of letters of these various kinds will be nearly the same, there will be some necessary variations in details.. These will be pointed out hereafter; but we must first state the general principle upon which official letters should be constructed, viz.:—

First, state the information, request, or direction,

Then give reasons, if any be necessary.

Sometimes, but very rarely, deviations from this rule are permissible, but the privilege is dangerous in inexperienced hands. Keeping in view the foregoing rule, we next remark that every statement, request, or direction, should be given in the most *explicit* manner. Subject to certain limitations to be presently mentioned, a spade should be called a spade: an application for payment of ten pounds should not be liable to mistake for an offer to lend that sum: a direction to march should be "March!" Again, precision of language is of the utmost consequence. And here we would caution our readers against two of the "dangerous classes" of words—adjectives and adverbs. Words of these classes are apt to *imply motives*, and an official letter should imply nothing but what it explicitly states. Besides, precision of statement can always be secured without adjectives, unless it be those of the safe description—numerals. Much inconvenience, misunderstanding, and loss of time and temper are occasioned by the difficulty experienced by some persons, and the carelessness manifested by others in attempting to say precisely what they mean. If greater attention were paid to this point much of the inadvertent, unintentional falsehood which troubles society and grieves our moralists, would vanish. The presence of such qualities as explicitness of idea and precision of language exclude altogether the notion of "fine writing." Flowers of Rhetoric, if admissible anywhere, are entirely out of place in official correspondence. Lest it should be inferred from the foregoing remarks that civility is to be entirely overlooked, we take this opportunity of stating that all respect and courtesy should be shown to the person addressed, not merely by employing the customary forms of address to which his rank or official position entitle him, but also by abstaining from the use of terms not fully warranted by the circumstances. A very slight knowledge of the world will suffice to show an applicant for some personal gratification, whether claimed as a right or sought for as a favour, that the use of rude or intemperate language, or the imputation of improper motives, is not likely to convince the person appealed to that the request is just in itself or the writer deserving of consideration. Another necessary caution as regards style may be thus expressed: choose words fitted to the subject. When the style is too grand for the subject and the choicest words are used to describe a trivial circumstance, a sense of disproportion is excited in the reader's mind. Brandishing the club of Hercules to brain a gnat would create the same impression in the mind of a beholder. This fitness of the style to the subject is a quality of composition not easily attained, and requires that the power of discrimination should be carefully exercised.

The cardinal qualities of official style will therefore be—1. Explicitness, 2. Precision, 3. Courtesy, and 4. Fitness. But the explicitness should be without rudeness; the precision void of offensiveness; and the courtesy without pomposity.

Before proceeding further, it may be useful to make some reference to certain set forms usually employed in official correspondence. Many of these conventional expressions have no definite meaning, and if minutely analysed, would, in some cases, appear highly ludicrous. For this reason they are often condemned as useless, and ridiculed as "red tape." But this is after all but a shallow view to take. Two persons on meeting and parting usually address each other with some kind of salutation, such as "Good Day." This custom has no precise meaning, and yet is not wholly destitute of significance. The omission of the salutation would, in some circumstances, be viewed as an insult. The conventionalisms of official correspondence are in the same position—the omission of them conveys a slight. When the Principal Under Secretary concludes a letter to an unsuccessful applicant for employment with "I have the honor to be your most obedient servant," no one supposes that these words are to be taken in a literal sense, while the refusal of the request is softened by using the language of respect. So in the case of dismissing an officer, the employment of this conventional phrase helps to remove the notion of *personality*, and to sustain the belief that the writer is simply discharging a duty imposed upon by his office. The more common of these cenventional expressions are used at the commencements and terminations of letters. "I have the honor to" is the usual form of beginning a letter: the customary termination has already been quoted. These forms should be used by superiors as well as by inferiors. It is moreover usual in the Civil Service for a superior to *request* a subordinate to do what he has power to *order* him to do.

(To be continued.)

THE STUDY OF THE CLASSICS.

(The following Paper is the concluding part of one first published in an American periodical about 30 *years ago. As the question of the study of the Classics has recently occupied a considerable share of public attention, we thought it desirable to let our readers know the view entertained on this subject by the learned in that country. We hope to supply introductory lessons, with exercises and key, for those who desire to commence these studies, when this Journal is enlarged.)*

THE study of the classics tends to refine, chasten, and exalt the imagination.

Perhaps there is no one of the native powers of the mind, which usually exerts so important an influence upon our happiness or misery in this life, as the imagination. If properly trained and directed, it may become the source of the most exquisite pleasure; if neglected and abused, of the most excruciating torment. In those departments of literature which are the peculiar province of the imagination, the ancients stand unrivalled. In their poetry and oratory, the student is introduced to the most splendid creations of genius. It is the prevailing opinion of some of our best critics, that the infancy of society is most favorable to poetic excellence. Everything then is new. All the impressions of the bard are fresh and vivid. The current of his thoughts gushes out warm from nature's living fount. As men advance in society, they become less susceptible to those lively emotions, excited by an ardent imagination. They deal more in general ideas and cold abstractions. The reasoning powers become more acute, the imagination more tame. The experimental sciences, which require time for maturity, advance with the improvement of society, while poetry remains stationary or retrogrades. "As civilization advances," says Macauley, "poetry almost necessarily declines. In proportion as men know more and think more, they look less at individuals, and more at classes. They therefore make better theories, and worse poems. They give us vague phrases instead of images, and personified qualities instead of men. They may be better able to analyze human nature than their predecessors. But analysis is not the business of the poet. His office is to pourtray, not to dissect." "The Greeks," says Menzel, "translated beautiful nature; the middle ages translated faith; we translate our science into poetry."

If this theory be true, the student can kindle the true prophetic enthusiasm in his own bosom, only by stealing a coal from the altar of the ancient muses. A thorough acquaintance with ancient poetry will undoubtedly give him a just notion of the office of the imagination in literature, and reveal to him the secret process by which this "shaping spirit" creates the magic wonders of its power. It is not enough that the scholar views and admires these unequalled productions of genius: he must become familiar with them, and feel their influence. It is not sufficient to notice and treasure up the beautiful conceits and striking expressions of an author; but he must strive to reproduce in himself the inspiration of the bard and the enthusiasm of the orator. He must, for the time, forget self, and, in imagination at least, exchange places with the author, live in the very midst of the stirring scenes that call forth the author's pathos, or kindle the poet's fire, breathe in his spirit, be moved by the same impulses of feeling that actuated him, be touched by his sorrow, be melted by his tears, catch his fire, feel the same emotions of sublimity, and enjoy the same beauties that elevated or ravished his soul, soar with him in imagination, and train the whole intellectual being to like modes of thought. In this way he may acquire sufficient strength and nerve to wield the giant armour of men of other days.

By this process alone, can the student become an adept in classic lore. Some practical men may cry out, "Enthusiasm! extravagance!" Admit that it is enthusiasm. Great attainments were never made in any branch of literature, science, or art, without some degree of professional enthusiasm. This devotion of eminent scholars and artists to their favourite pursuits is the very secret of their success. The geologist is in raptures at the discovery of some antediluvian reptile or more recent petrifaction. The philosophic antiquarian gazes with mingled awe and reverence at the remains of ancient art,—those magnificent ruins and marvellous columns that stand upon the soil beneath which countless generations sleep,—

> "Flinging their shadows from on high,
> Like dials, which the wizard, Time,
> Hath raised to count his ages by."

The Physician boasts of his splendid illustrations of morbid anatomy, and of his beautiful specimens of diseased bones; and no one objects to this devotion to a particular department of study, this professional enthusiasm. On the contrary, every intelligent man commends it as the very key that unlocks the temple of science.

The taste is refined and matured by this same discipline.

By constant association with refined society, the individual is himself refined. The mind, in like manner, is moulded by the objects it contemplates. By long familiarity with these finished models of composition, the principles of philosophic criticism are gradually acquired, and a cultivated taste is unconsiously formed; so that, in writing, the student instinctively adopts what is beautiful in sentiment and faultless in expression, and rejects what is vulgar and anomalous. *Though he may forget every word and every thought he has ever learned from ancient authors, his time will not have been lost.* There still remains in the soul "an intellectual *residuum*," a kind of mental precipitate, which, though differing from all the elements that were originally thrown into the intellectual crucible, still contains their very essence, and is superior to them all. The student's taste is classical. And can we use a more expressive epithet? Can there be higher praise? After long acquaintance with classic excellencies, he has an intuitive perception of the beauties of a literary production. He does not need to recur to the standard he once used. He has risen from the condition of a learner to that of judge, and his nice perception of the beauties of a finished composition has become a part of his mental constitution. The man who has been thus educated, can scarcely become so degraded as to lose entirely his taste for the beautiful, the poetic, and the sublime in literature. Nor is this discipline, which thus forms the taste and polishes the mind, a mere unrequited toil, destitute of pleasure or profit. There is a pleasure in mere intellectual activity. We are so constituted, that without exertion me cannot enjoy. Knowledge is the proper aliment of the soul, and the highest mental enjoyment results from the uninterrupted pursuit and the constant acquisition of new truths. A philosopher once said, "If the gods would grant me all knowledge, I would not thank them for the boon; but if they would grant me the everlasting pursuit of it, I would render them everlasting thanks." When the student commences a course of classical study, he does not enter upon a barren desert, with only here and there an oasis to gladden his heart, but a land of hill and dale, whose eminences are clothed with perpetual sunlight, and in whose bosom sleep the treasures of a world.

Classical study is eminently useful in strengthening the reasoning powers.

The art of reasoning is one of the most complicated and difficult of all arts. It can be acquired only by long and laborious training. Perfection in this art would require all knowledge. The noblest productions of human reason have resulted from the combined influence of all liberal studies. The higher mathematics furnish an excellent discipline for minds that have already been partially matured by an appropriate early education. But as mathematical reasoning alone admits of absolute certainty, and all moral reasoning is based upon probabilities, classical study is found to be an excellent co-worker with the mathematics and metaphysics, in preparing men for the diversified employments of life. In most of our daily avocations, we reason from probable evidence. The difficuty of this process is increased by the ambiguity of human language. In the business of translating from a foreign tongue, the mind is constantly employed in weighing evidence, and balancing probabilities. It is made familiar with the very process of reasoning which we need to employ in the intercourse of life. "The mind," says Dugald Stewart, "in following any train of reasoning beyond the circle of the mathematical sciences, must necessarily carry on, along with the logical deduction expressed in words, another logical process, of a far nicer and more difficult nature, that of fixing, with a rapidity which escapes our memory, the precise sense of every word which is ambiguous, by the relation in which it stands to the general scope of the argument."

Now this is precisely the student's occupation who is translating a foreign language. He is incessantly employed in determining the meaning of words from the connection in which they stand, constantly weighing evidence and drawing conclusions, if he does not use a translation; for, in that case, he is only exercising his memory. Each word has various significations. He must carefully examine the sentence, and then fix upon the appropriate definition. In this way he is for years training the mind to the most accurate discrimination in comparing words, and adjusting nice shades of meaning. Thus he learns to practice the most delicate and difficult part of the art of reasoning. In what other way could one become so intimately acquainted with the right use of language, which is the great instrument of all ratiocination? Without a minute knowledge of definitions, and of the nice shades of meaning which result from the subject discussed, and the connection of the argument, no person can speak with precision, or reason with force and perspicuity. Many eminent teachers have been so fully convinced of the utility of classical studies, in invigorating and maturing the mental powers, that they give it as their opinion, that, if two students, of equal capacity, be put upon a course of study for six years; the one pursuing English studies wholly, and the other devoting one-third of the time to the languages; at the end of the course the classical student, by his superior discipline, will have acquired a better English education, aside from his knowledge of the languages, than the other. An eminent French philosopher supposes, if two boys were put to study, the one upon the classics, and the other upon the sciences; and, "on leaving the first class," the classical scholar should, by some accident, lose every word he had learned, but retain his intellectual powers in the same state of maturity as before the loss, that this scholar, beginning his acquisitions anew, would, at the close of his course, be better educated and better prepared for the business of life than the other, who had devoted the whole time to other pursuits. This may be an extravagant opinion, yet by no means so extravagant as many would suppose. It is undoubtedly true, that the time which many students think absolutely wasted upon the classics, is the very seed-time of life. It is the very apprenticeship of mind; the time when they are acquiring strength and skill for greater effort; the time when they are preparing their weapons for future intellectual warfare.

A distinguished philosopher remarks: "The real way to gain time in education is to lose it; that is, to give it up to the natural developement of the faculties: not to be in haste to construct the edifice of knowledge, but first to prepare the materials and lay deep the foundations. The time that is yielded to the mind for unfolding itself, though slowly, is not lost; but to derange its natural progress, by forcing on it premature instruction, is to lose not only the time spent, but much of the time to come. Give your pupil memory, attention, judgment, taste; and believe, whatever his vocation in life may be, he will make more rapid and certain proficiency, than if you had loaded him with knowledge, which you cannot answer for his bringing to any result, and which his organs, weak and variable, and his unconfirmed faculties, are as yet little able to bear."

In this connexion it may not be improper to notice some of the current objections against the classics. The common objection against their practical utility has already, I trust, been answered, by showing that the study of them developes and matures the young mind. Whatever expands the soul, induces reflection, furnishes food for thought, subdues sense, and exalts reason, is eminently practical.

Aside from their influence in forming the mind, their utility might be advocated as the medium of communicating valuable information that cannot be conveniently learned from other sources. In learning the language of a nation, the student becomes acquainted with their mental habits, their progress in philosophy and morals, their history, chronology, private character, and public institutions. A mere vocabulary of the words used by a people, will show their progress in science, philosophy, and the arts; and a careful analysis of their peculiar modes of expression, the structure of their language, and the characteristics of their style, will prove a very valuable help to the study of intellectual philosophy. Words and thoughts are so intimately associated, that the study of language is, in one sense, the study of mind; and comparative philology may justly be styled, "the comparative anatomy of mind." It is a common remark of students: "I wish to study what I can use in the affairs of life." Now, what can be more useful, especially to one whose business it is to persuade, to convince, and to instruct, than to be thoroughly versed in the philosophy of mind and its operations,—to be well acquainted with all the springs of human action? If a scholar will study only what will be available as an intellectual fund in after-life, he must confine himself chiefly to the elementary branches of an English education, particularly to arithmetic and book-keeping. But if he would entertain large and liberal views, his course of study must be equally extended and liberal.

From young men who contemplate the legal profession, we frequently hear such sentiments as this: "I wish to give my attention to such authors as will furnish me with practical knowledge, polish my style, give me a command of language, and prepare me for a public speaker." I reply, that there is no exercise that will so effectually prepare you for your contemplated duties, as the study you object to. Do you expect to spend your life in the use of language, to gain your subsistence by its use, and yet object to the study of it? "But" says the objector, "I do not intend to speak Latin or Greek." Very well; but if you can acquire a better knowledge of your own tongue, a more polished style, and a more ready command of words, by the discipline of interpretation, is not this the very end you aim at? What, think you, gave birth to the clear, precise, and logical reasonings of Cudworth; the profound thoughts and copious diction of Barrow and Howe; the transcendent, matchless eloquence of Taylor and Milton? Did they acquire their unrivalled distinction as scholars, by studying English literature? Most certainly not; for they had none, or almost none, to study. These were the men who made English literature. Their minds were trained almost wholly by classical study.

(To be continued.)

ON TEACHING AS A PROFESSION.

[*Continued from page* 144.]

THIS applied psychology, then, is the teacher's special technical work. I know that some may be inclined to assert, that we have no psychology far enough advanced in its investigations to form a basis for a practical training. I deny this out and out. I maintain, on the contrary, that psychological researches have established the laws of the mind far more exactly than phychological investigations have disclosed the laws of vital action. And, in proof of this, I can appeal to such works as those of Professor Bain on the Intellect and the Emotions, full of sound generalisations, and to those of Currie and Morrison, as full of just applications of the laws of mind. My opinion in regard to this matter is stronger than most; for I believe that one philosopher of Germany has established psychology on a thoroughly scientific basis, and that his system of psychology at every turn affords irrefragable principles of action and critera of methods. I mean Beneke. He saw clearly that three great difficulties lay in the way of a true psychology: first, the continual meddling with questions which there is no possibility of settling, and in regard to which all that can be done is to settle the limits of human knowledge by an investigation into the processes of our thought; second, the commingling of physical in the explanation of psychological phenomena, as if the chain of causation in mental phenomena could be disturbed directly by physical agencies, while the physical cannot be disturbed directly by mental; and, thirdly, the failure to observe the immense complication of all mental phenomena. Tearing himself clear from the first tendency, he resolutely adhered to the determination to explain mental phenomena only by mental laws; and watching the human mind with great patience, he analysed and analysed until he got at three or four fundamental processes by which he thought he could explain almost all mental phenomena; and I think he has succeeded wonderfully. I do not say that the science is complete. He himself would have been the last to maintain that. It is a science based on observation and analysis for the most part, and therefore it requires the help of many minds. But I say this much, that it is so far complete, that it can be used by the teacher at every stage of his career, alike for intellectual, moral, and æsthetic culture. It enables the teacher at once to gauge the value of the methods which he is persuing; to estimate the educational value of the matter which he is giving; to measure the intellectual force of the pupil; and to put your finger on the special deficiency characteristic of his mind, and to battle in a successful manner against the special diseases of the soul. As Beneke laid great stress on his exposition of the complicated character of mental phenomena, he paid special attention to the processes of thought, as exhibited in children, because they are more simple in these. And, accordingly, he wrote a very important book on education, containing, as I think, the finest, most philosophical estimate of the various branches of study in

Education, and a thorough exposition of the natural methods. His work has had a most powerful influence on the teaching of Germany. His psychology has been hailed and cultivated by German teachers; and I have no doubt, when it once becomes properly known in this country, it will exercise a great influence.

There is then a science of Education, a science not merely in its rudiments, but worked out with considerable fullness; and those who have asserted the contrary, seem to me to betray their ignorance of what has been done in this field, and their readiness to pronounce an opinion before they have investigated a subject.

But besides this technical knowledge, the teacher has to communicate impulse. The thirst for knowledge is natural to man; but somehow or other, in the course of life, the thirst for knowledge, especially of the higher kind, soon ceases to exist, and he becomes satisfied with transient and less spiritual pleasures and occupations. Now it is the business of the teacher to stimulate the pupil's desire for knowledge in every direction. And this impulse can be given only in one way. It can be given only from the teacher's own heart and life. In other words, the teacher must keep up and intensify his own desire for knowledge, his own eagerness in the pursuit of truth. He must be a genuine and hearty student. *The man who ceases to study is not fit to be a teacher*, or, at any rate, *is not fully equipped for the work of education.* And hence the necessity of giving the teacher as thorough an education as possible at the commencement. Every teacher should be able at least to take a University degree. Indeed, if he does not reach this point, I do not see how he is to make a thorough mastery of the psychology which he is to apply in his daily life. It is for this reason that I regret so much that the standard of our Normal Colleges is so low in respect of scholarship; and I trust that the proposal made again and again by some of the wisest men connected with these colleges, of uniting in some way a university course with a normal college course, will be looked on with more favour than it has hitherto received from Government. Every increase of intellectual power on the part of the teacher, is so much gain to the pupil; and the country would be infinitely benefited if all teachers were equipped with a university training, as well as a special educational training and apprenticeship, before occupying the post of independent teachers. I need not say also, that such equipment is calculated in no ordinary degree to raise the character of the profession. The Edinburgh Bar has long held one of the foremost, if not the foremost, place in the professions; and one of the reasons, perhaps the main reason, was, that it exacted from all its members the culture of gentlemen. *Wherever a high standard of liberal culture is exacted from every member of a profession, that profession will be sure to stand high in the opinion of all cultivated men.*

These two things, then, seem to me best calculated to raise the teaching profession,—a thorough knowledge of the Science of Education, combined with the capability of applying the psychological laws to teaching, and a thorough liberal culture. They lie considerably in our own power. We may do much to give ourselves both, by earnest and faithful work; and our strongly expressed opinion, whenever we have opportunity, may pave the way for creating greater facilities to the attainment of both objects for our more fortunate successors.

The other method of elevating the profession is Government Recognition,—recognition by Government of teachers, as constituting a distinct profession. I am favourable to every effort that has been recently made in regard to this matter. I think the originators of the Scholastic Registration Association deserve our best thanks, and I consider that it is our duty to support the movement in every way. At the same time, my convictions lead me to go much further than any mere registration movement. I think the teaching profession, if it is to do its work most effectively, must not merely be recognised by Government, but must be organized by it; that the teaching profession, in fact, in some shape or other, must be the officials of the Government. In other words, education can then only be most effective and most beneficial, when there is a national system of education. And I mean, by a national system, not one which deals merely with schools for the lower classes, as if they only constituted the nation or people, but I mean one which undertakes to regulate the education of all classes of the community, from the highest to the lowest, not altogether it may be irrespective of the wealth and position of the people, but based mainly on the natural differences of intellectual power in young people. My time is too limited to enter into the subject fully; but I shall attempt briefly to prove that education cannot be satisfactory and complete, and that it is impossible to obtain the best men for teachers, unless by combination on the part of the nation; and I assume that the most accessible form of combination open to the whole nation is presented by the existing machinery of representatives and government.

I maintain first, then, that education cannot be given with the most beneficial effect, unless by systematic combination on the part of the community. The demonstration of this point is one on which you, of all men, are best able to judge, and I appeal to you fearlessly in confirmation of my opinion, for I base it on educational experience. It seems to me that for the highest purposes of education it is essential, unless in a few exceptional cases, for the most part the result of previous carelessness, that the education be given to boys in classes. If you wish to educe certain faculties, and impress certain portions of knowledge on the mind for life, it seems to me that that can be best effected when you have a class of a certain size. It must not be too small, nor must it be too large, though in certain cases the largeness of a class is not a disadvantage, provided all the boys are well matched. I shall take an extreme case to illustrate my position. Suppose an average teacher advertises that he intends to set up a school, but, going on the limited and exclusive system, he will not admit more than five, each to pay £100. Well, then, five come, but it so happens that the five are at quite different stages, and have minds of different capacity.

Accordingly he has to arrange his pupils into five classes, one boy in each; and if he limits himself to five hours' teaching, long enough for a vigorous exercise of his intellect, each boy has one hour of the teacher. Now I say that this one hour of the boy, or two hours, or whatever he may get, will not be so beneficial to him as it would be if he formed a member of a class of twenty or thirty boys nearly equal to him in most respects. For, first, the boy has no stimulus by measuring himself against his equals. Then the teacher has no opportunity to vary his teaching by repeating the same subject in different ways with different boys. Thirdly, no special call is made on the boy's power of voluntary attention, one of the best results of a good education, and yet necessarily totally neglected where the boy is either alone or with comparatively few. Fourthly, the boy has no chance of seeing the same subject in the various lights in which it will strike boys of different characters. He cannot profit either by the merits or defects of others. And, fifthly, he loses all the benefit of one of the most active agents in educating,—sympathy with others. I am dealing here, you will notice, not with the monetary aspect of this question, nor with the influence which companionships at school will have in after life, but simply with the question as it bears directly on the education of the pupil. And in harmony with what I have now laid down, I should maintain that the larger a school is, the greater is the chance that the education will be thorough, provided the teaching power is kept up in proportion to the number of pupils. The larger the number of pupils in a school is, the more exactly can they be assorted into the classes perfectly suitable to them, and with greater ease can the teaching power be brought to bear on them. Now, in the vast majority of cases, when education is left to mere chance, it is impossible to get the right assortment of pupils. The classes will be too small or too large, they will be badly assorted, and difficulties in educating them to the full extent possible will be needlessly created.

(To be continued.)

INTELLIGENCE.

VICTORIA.—REPORT OF THE ROYAL COMMISSION APPOINTED TO ENQUIRE INTO AND REPORT UPON THE OPERATION OF THE SYSTEM OF PUBLIC EDUCATION.—*(Continued from page 148.)*

Nature and Quality of Public Elementary Education.

3.—EXAMINATION UNDER STANDARDS, AND PAYMENT OF TEACHERS BY RESULTS.

This method of payment and examination was introduced by the present Board of Education, in the Regulations prepared by them, and submitted in June, 1863, for adoption by the Governor in Council. At the suggestion of the Government alterations were made which were intended to secure to teachers a just classification and an adequate income, and to the schools a regard for good order and moral discipline.

This system, which involves the individual examination of each child in the subjects of Reading, Writing, Arithmetic, Grammar, and Geography in every school aided by the State, and which makes the income of the teacher dependent, to a certain extent, on the number of children submitted to and passing the examination, is generally known by the name of the "Result System." It has been in operation for a period of nearly three years.

A large number of witnesses have been examined in reference to this system with a view of ascertaining whether it is advisable either to retain or abandon it, or to modify it in application to the schools in Victoria. The number of children on the rolls of the common schools, and the regular attendance of the children on the roll have increased considerably since the introduction of the system of payment by result. It is stated also that the children are better taught than they were formerly, that increased energy is displayed by the teachers, and that an improved organization, owing to the greater efficiency of the inspection, is observable in all the schools; and these facts are attributed by a large number of influential witnesses, to the system of payment of teachers by results. On the other hand, the majority of the teachers are opposed to the system; but both they and the other witnesses who concur with them, and whose testimony, not being interested, is perhaps more reliable than that of the teachers themselves upon this point, direct their objections chiefly against the details rather than against the principles of the "result system" now in operation.

The general regulation by which it is provided that no school shall be qualified to receive aid to an amount exceeding £2 for every £1 raised by fees and local contributions, has operated most severely upon those schools that most require aid, and has furnished occasions of complaints which appear to be well founded. It is also alleged by the opponents of the system, that the results of inspections of the same school by different inspectors vary greatly from one another, and that thereby injustice is done to the teachers; that the tone and discipline of the school, which are the most important tests of its efficiency, are entirely overlooked by the result system; that the system is unfavourable to intellectual development, as well as discouraging teaching in the higher branches of knowledge, as by encouraging a mechanical method of teaching the subjects included in the school course; that school organization is often injuriously affected by it: and finally that it imposes an undue amount of clerical labour upon the teacher. There appears to be more or less weight in each of these objections, but they may be all removed without interfering with the principles of the system. With this view the Commission recommend:— First, That the number of the examinations of the pupils under standards be reduced to one per year, of which notice should, as at present, be given to the teachers, and that every public school should be visited by the inspector without notice at least once in each year, for the purpose of ascertaining the general efficiency of the school, and the state of discipline. Secondly, That the standards and programme be so combined, for the purpose of examination, as to secure as much as possible the full advantages of each.

4.—ELEMENTARY OR HIGHER CLASS INSTRUCTION IN PUBLIC SCHOOLS.

The subjects of instruction in schools in connexion with the Board of Education for which the ordinary school fees are paid are—Reading, Writing, Arithmetic, Grammar, and Geography. The masters, in some cases, teach higher branches, for which they are allowed to charge increased fees. It is the opinion of the Commission that this practice should not be disturbed. It is admitted by all witnesses that the first object of the State should be to provide elementary instruction for all children in the community, and this primary object should not be allowed to be defeated or hindered by attempts to give higher class instruction to children who are desirous of obtaining it. These two objects, although distinct, are not, however, inconsistent with one another. In country districts the teacher of the public school may be the only person capable of giving instruction in more than the rudiments, and he might under proper supervision, give such instruction without neglecting his first duty to all the pupils of the school. It would be highly inexpedient if the public schools should be regarded as one of the channels through which the State dispensed eleemosynary aid to the poorer classes of the community. The public schools ought to be considered rather as the common and most valued possession of all classes, to which parents would be induced by interest as well as in performance of a legal obligation to send their children; and where, in addition to the rudiments of knowledge, the advantages of special training and the means of a higher cultivation could be obtained. Impressed with this view, the Commission express the hope that the system of public schools may be extended by the Legislature at no distant time, and that a higher class of public schools, such as have been established in Prussia and in the State of Massachussetts, may yet be established in Victoria, and may, in connexion with the State, bind together the instruction given in the University and the instruction given in the elementary public school. They also recommend that exhibitions in connexion with the grammar schools subsidised by the State be granted annually to the best pupils of the public schools, and that a certain number of the probationers appointed each year to the Civil Service Examination, who have been educated at a public school. In the opinion of the Commission, singing should be encouraged, and should form part of the ordinary elementary instruction in all public schools. It should be taught at the training school, and a special certificate given to the teacher for competency in the art. If an addition were made to the salary of every teacher in a public school holding this certificate, upon the inspector being satisfied that singing was efficiently taught in the school to all pupils without any extra charge, sufficient and effectual encouragement would be given to this attractive, and, in an educational sense, an admittedly useful art.

5.—Physical Training.

The Board of Education has formed classes for teaching gymnastics and military drill to teachers. At the commencement of last year fifty teachers out of a class of eighty passed the examination, and thereby qualified themselves as teachers of elementary gymnastics and company drill; there are at present forty-one teachers attending the advanced class, and thirty-one teachers attending the elementary class of physical instruction, and in many schools a certain amount of drill is taught. The recognition of physical training by the Board as a part of education, and as entitled on that account to special provision in the system of public instruction, calls for special mention and acknowledgment.

(To be continued.)

ORAL LESSONS.

As this Journal is to be increased to 40 pages, commencing with the next number, we purpose, under this heading, to devote a considerable portion of the additional space to subjects on the Natural History of Australia; and to elementary lessons on Geology, Botany, and Chemistry, suitable for a Fourth or Fifth Class. We have no doubt there are among the respectable body of Teachers under the Council of Education, many well able to furnish us with concise and instructive papers suited to persons disposed to commence the study of these useful subjects. We do not desire to have them in the form in which an Object Lesson should be given, but so prepared as to furnish the material for such a purpose by a judicious Teacher. We hope to have a good supply to select from. We shall acknowledge the receipt of papers possessing merit, as we do correct answers to questions, and shall feel equally obliged to those whose papers are not inserted as to the writers of those published. The following brief paper, short as it is, was put in type last month, but had to be omitted with other matter for want of space :—

Duck-billed Platypus, called also *ornithorhynchus*, popular name "Water Mole," native name "Mallangong." *Length*, including bill and tail, 20 to 23 inches; *body* rather long and compressed, thickly covered with hair, amongst the roots of which is a layer of felt or wadding; *head* small and round, with small bright eyes; has no external ears, but has very delicate and fully developed internal ones. Instead of the muzzle of other quadrupeds, it has a bill, like that of a duck, but broader in proportion: near the extremity of the upper mandible, of which the orifices of the nostrils are placed, bill covered with leathery membrane; has no true teeth; *legs* short; *fore feet* have five claws, connected by a membrane to assist the animal in swimming;

hind feet resemble the fore, but are armed with spurs resembling those of a cock. *Tail* broad, long, and flat.

The Duck-billed Platypus forms a connecting link between beasts, birds, and reptiles. In general structure, not unlike an otter; bill and feet like those of a duck; and, in general habits, like a reptile; has a voice like the growl of a young puppy.

Habits.—Lives on the borders of lakes, marshes, and rivers; spends most of its time in the water, but constructs a long canal communicating with the water and terminating in a nest; feeds on insects obtained from the mud.

Where found.—In the colonies of Australia.

Lesson.—Point out the goodness of God in adapting it to the life it has to lead. As at first people disbelieved in the existence of such an animal, a person may be too incredulous.

ORIGINAL CORRESPONDENCE.

(Writers of all communications intended for publication in this Journal must furnish us with their names, not necessarily for publication, but as a guarantee for good faith and correctness. The Conductors of the Journal are not responsible for opinions expressed by correspondents.)

TEACHERS' BENEFIT SOCIETIES.

To the Editor of the Australian Journal of Education.

SIR,—I have read your remarks and the letter of J. Sheldon anent Teachers' Benefit Societies. Notwithstanding all that he and you have said, I am not at all sanguine that such a society would be very prosperous. I think that instead of a printed circular, as J. Sheldon suggests, that the teachers of each locality should arrange among themselves to meet together during the Mid-winter holidays and elect one of themselves to attend a meeting to be called, say in the town where the Inspector of the district has his head quarters. These District Committees each to elect a representative to correspond with the others and attend a Central Committee, when arrangements can be made for holding such. I intend to try the experiment; let others go and do likewise.

Having said this much concerning the practical part of the business, as the matter is of great importance, I, with your permission, will, as briefly as possible, state my views:—1st, on Life Assurance; 2nd, Benefit Societies; and 3rd, Superannuation.

1st. Life Assurance.—The average of human life, taking all classes of good lives, is 53½ years. Now, a person to join at 40 years of age has, on an average, 13½ years to live; it is, therefore, simply a question of compound interest to ascertain the rate per cent., per annum, on the sum to be paid at death. A person of the supposed age would have about £4 10s. to pay yearly for each £100 assured, and persons above that age of course more. These payments are supposing the annual payments to be put out at interest of at least 5 per cent.; but if the money is kept idle, or as the working capital of a Benefit Society, the payments will be more. The tables of the various Life Assurance Societies are based on calculations of the averages of death rate extending over a number of years, and are, in many instances, the lowest that can be adopted with safety. Besides, some of them divide their profits in the form of bonuses. Now, the rates of a Teachers' Society cannot be lower than theirs; nor, indeed, be so low, as will immediately be shown. Will teachers then, as a rule, be willing to pay the same rates, or more, to a new society, when they can have the advantages of an established one as cheaply?

Besides, it is proposed to admit all teachers, some of whom, no doubt, are labouring under some form of chronic disease, and who would not be accepted by any Life Office unless under a very heavy premium, thus increasing the disbursement, and, consequently, the premiums of the proposed Society. I said, taking all good lives, *i.e.*, free from chronic disease, the average age is 53½ years. Teachers' lives are below the standard. The following Table, by Casper of Berlin, published in 1834, will show such to be the case. It shows the number in a hundred of each of the classes mentioned who reached the age of 70 years :—

Theologians	42
Agriculturists and foresters	40
Superintendents	35
Commercial and industrious men	32
Military men	32
Subalterns	31
Advocates and barristers	29
Artists	28
Teachers and professors	27
Physicians	24

It will be seen that teachers are only one step from the bottom of the list, the last being physicians, men who are exposed to infection from disease of every form. It needs liltle argument to show that a Society of low-classed lives will require larger premiums than one composed of average lives.

There are several other causes which would deter teachers from joining a Class Society, which possesses no advantages over its competitors—such as leaving, or being turned out of the profession, they might not like to remain in the Society—or being a purely local affair, persons leaving the country, as many do, would be put to great inconvenience in making payments and proving deaths; whereas other offices have agencies nearly everywhere.

2nd. The Friendly Society.—Friendly Societies are based on calculations of the same nature as Assurance Societies or Offices are. I am of opinion that a greater number of Friendly Societies have failed than any other of the schemes of the present day. They may be counted by the thousand; and the cause of nearly all failures was the want of proper calculations, or rather a desire for cheapneas, and a disregard of those facts which statistics have given for our aid. Like the Assurance Society, the Friendly Society requires an increased payment as the age of the member increases at joining. The following Table will show the cause :—

Table of proportion of sick in a hundred persons :—

AGE.	Highland Society.	English Benefit Societies.	Mr. Edwards' Tables.
20 to 30	1·14	1·54	1·72
30 ,, 40	1·32	1·83	2· 3
40 ,, 50	1·79	2·56	3· 1
50 ,, 60	3· 6	4·32	4·51
60 ,, 70	7·16	8·46	9·73

Number of days sickness at the various ages mentioned :—

Age—20 to 30,	days of sickness	per annum	4· 3
,, 30 ,, 40,	,,	,,	6· 1
,, 40 ,, 50,	,,	,,	8·61
,, 50 ,, 60,	,,	,,	17·13
,, 60 ,, 70,	,,	,,	46· 0

Of course, to fix the payments for a Friendly Society, the amount of benefit to be given has first to be ascertained, then it is simply to divide the amount of benefit as per average by the time over which the payments will extend. Unless such a scale be adopted, we cannot expect young teachers to join a Society where they will pay more for a given amount of benefit than they will have to do in other Societies, *e.g.*, Oddfellows, Druids, Foresters, &c. I may say, parenthetically, that as the advantages of these Societies are not sufficiently known, I may, at a future time, with your permission, give a short account of them. Some of the objections mentioned under the head of Assurance will apply to this Society also.

From your remarks (the impression is mine) I conceive that the proposed Society would also be a Loan Society. That cannot be. The Loan and Benefit Societies must be distinct. By the 17th Victoria, Chap. 26, no enrolled Benefit Society can lend a penny of its funds, except upon freehold security, leasehold security, which has 19 years to run, or Government securities. Where is the teacher, requiring assistance, who has any of these to offer? Let echo answer. The Loan Society would therefore require to be a separate affair, having its own capital and rules. You speak of loans without interest, and at a low rate of interest. Very good in theory, but where is the money to come from? Teachers who require help have little or none to invest; and, as a rule, those who have, will not—1st, because they can fall back on their own capital, however small; and, 2nd, they can get a higher rate, with less risk, from a Savings' Bank, Building Society, or on mortgage. Besides, a borrower could not give any security, other than personal, and that is of the worst possible kind. I fear there would be plenty of borrowers, but few lenders. The funds of the Assurance and Benefit branches would not be available, as these would require to be enrolled to guard against men of the Eastwood stamp. Any member of an unenrolled Society cannot be made to give up any funds or property he may have, if he is rogue enough to refuse. Granting the honesty of those who may initiate the matter, we cannot tell who may hold office twenty years hence.

Many are apt to look upon such Societies as a kind of charity; they are nothing of the kind. Although life, health, and what may be called the accidents of existence, are very uncertain as regards individuals; for the whole community, taking a number of years, nothing is more certain. This fact is the basis of all such Societies; to equalize the loss, not to make it good, as some suppose. This being the case, it is clear that each will have to pay as much in a given time as he will require, per average, for that time.

The facilities are just as many now as they will be if the proposed Society were established. Where then are the benefits to be derived from it, that are not attainable without it, to those who can pay for them? And will it help those who cannot afford to pay?

As I fear I have taken up too much of your space, I will reserve what I have to say of the advantages of Superannuation to a future time. Meanwhile it is the duty of every teacher to give the matter his most careful consideration, that he be able to help with whatever scheme may finally be decided on.

Hoping that the matter may be taken up in a becoming spirit, and carried to a successful issue,

I am, Sir,
Yours, &c.,
13th May, 1868. C. Park.

SUPERANNUATION OF TEACHERS.

To the Editor of the Australian Journal of Education.

Sir,—This subject having once more come under discussion, let us hope that it will not, this time, be dismissed until some practical result be obtained. Strong efforts may be needed and sacrifices demanded, but it seems a law of nature that few objects worthy of attainment are achieved without some such exaction; and that the labour be not expended, and sacrifice made in vain, those efforts must be, not spasmodic and remittent, but steady and persistent.

A very practical observation occurs in the May number, to the effect that the Council cannot be expected to apply for a Superannuation Bill on an assumption, or without full evidence that it is actually desired by the body in whose behalf it would be enacted; also that it is not a healthy sign when men ask others to perform a duty that properly devolves on themselves. With regard to the alleged or imputed indifference, I have some remarks to make, but will, for the moment, defer them to the more important object of suggesting a plan that would confirm the fact or dispel the error.

Let a public meeting of teachers be convened, with the object of forming a Central Committee, and a printed circular posted to every teacher of a Public and Certified Denominational School in New South Wales. It should contain a schedule for a statement of his classification, length of service, and income, distinguishing salary from fees ; also a request that he would write his wishes and views on the desirability or otherwise of Superannuation, and return the document at his earliest convenience.

Up to this stage the expense would be only the cost of printing and postage, and having suggested the plan, I am quite prepared to bear my part in carrying it out.

If the favourable responses were numerous (and of that, I have little doubt) a petition might be drawn up, setting forth the claims of a body of men, whose duties are arduous, inconveniences great, and remuneration small; and who, by a technicality, are denied the prospective advantages held out to other members of the Civil Service.

Most men, when unbiassed by self-interest, love abstract justice; and I believe the Legislature would admit our claims and redress our grievance, more especially if we showed ourselves willing to take up our share of the burden.

Reverting to the charge of apathy, I beg to suggest that very dissimilar causes may produce like results. Isolated and dispersed over a vast area, without a central organization, efforts must be individual, and the knowledge that such are ever futile, would paralyze energy and produce inaction. No legitimate organ existed to advocate their claims, and appeal to the public press was systematically discouraged. Under these conditions can their silence excite surprise, *or* was it not rather a natural consequence; but now that an authorized outlet for their pent-up feelings has been established, I think the complaint will be not of taciturnity.

The most disagreeable part of my task yet remains, and though apparently a divergence from the subject, I consider it to have a vital bearing thereon, or I would most willingly suppress what is to follow. Not apathy, but a much more active and energetic feeling, that of self-interest, has prevented, and may yet prevent, unity of action. It is far from my wish to introduce an element of discord where our strength must lie in combination, but I deem it better to utter the opinions I hold in common with many others, than to suppress, and let them rankle. While admitting the justice of our claims as a principle, the Legislature has denied the concession, on the ground that a part of the remuneration depended on fees, and when Mr. Parkes proposed their collection and redistribution, a scheme which would have removed the difficulty, a deputation of Sydney Teachers, which I submit did in no way represent the opinions of any but themselves, waited on him and strenuously opposed the innovation: alienating public sympathy by the demonstration of their opulence. Meting by the guage thus furnished, people might well ignore the existence of the Bush Teacher, with his £72, £84, or £96 of salary, augmented by £10 or £12 of annual school fees. It is desirable that there should be something to aspire to in every career as an incentive to exertion, but let the prizes be systematically distributed, and then we shall not behold the anomaly of a metropolitan teacher, with the same classification, but double the income of his rural brother.

The time is favourable for action when so true a friend to education and its instruments as the President of the Council holds office, and former opponents are now advocates. Be it ours to seize the golden opportunity and smooth the downhill of life for those who have borne the burden and heat of the day.

I am, Sir, yours, &c.,
FIVE-DOCK.

To the Editor of the Australian Journal of Education.

SIR,—In common with other teachers I have read with much interest, the articles in *our* valuable journal, on Superannuation, and Benefit Societies, together with the correspondence thereon. I agree with you, that it is surprising a greater diversity of opinions has not been elicited, but I quite agree with Mr. Sheldon, that if the battle is to be won it must be by our own efforts and exertions. The question has been asked, How is united action to be obtained? I answer, By forthwith establishing Teachers' Societies in every district, and at every centre of population. In the time of the National Schools this was impracticable, because, unfortunately, each class of Teachers looked with suspicion on the other, and neither body was strong enough to form a society permanently. Now, however, the case is reversed, and by unity we can present a front, and render assistance in elucidating some of the great educational theories of the day, and at the same time obtain a better position than hitherto has ever been awarded to us.

The plan which I have thought of would be something like this : I would establish one Central Society in Sydney, which should embrace all the teachers there, and those at no great distance. This should be a centre for all the branch societies, which should be established in each of the principal towns in the Colony. I would have monthly, quarterly. and annual meetings. Those teachers immediately contiguous to the place of meeting would be able to meet monthly, while the others could meet either quarterly or annually. I would have the annual meeting in the Midwinter vacation, and at this meeting a delegate should be chosen from each main branch to represent that branch at the Central Society, at a meeting to be held about Christmas. I would make the subscription for monthly members 10s. per annum ; for quarterly members or others 5s. per annum. In conjunction with these societies, Benefit Clubs might be established ; when I would propose that an additional 10s. should be taken as an annual subscription from every Head of Department ; 7s. 6d. from every Assistant Teacher, and 5s. from every Pupil Teacher. According to the number of teachers in the service at the end of 1867 this would give an annual revenue of £430, evclusive of interest. This sum should be collected quarterly and forwarded by the treasurer to a central committee in Sydney, who should be appointed trustees in accordance with the provisions of the "Friendly Societies Act," and to them all applications for loans or assistance of any kind should be forwarded ; and they would use their best endeavours, being free from any bias, to apportion the assistance as most urgently needed.

I conceive, that in this case there would be no need of assistance from the Government, and we should find ourselves independent, relying as we should on our own savings for assistance.

With regard, however, to superannuation, (an equally important question), there are serious difficulties to be overcome, viz. :—1st, The payment of fees. 2nd, The date from which service should commence ; and 3rd, The sum which should be deducted annually to make the amount of superannuation sufficient to provide a respectable maintenance to those unable from age or sickness to prosecute their duties successfully.

As to the first, I would propose that it should be settled thus :—The fees payable to a third class teacher should be estimated at £50 ; to one of the second class £60 ; and to a first class at £90. It is probable that the fees may not reach these amounts, but the amount is a matter of no great question if the principle be carried out. The amount of fees should be added to the salary paid to the teacher, and a per centage be deducted from the whole to form the fund. Probably the country would not begrudge a small sum of money, say five or ten thousand pounds, as a sinking fund, to assist those in old age, who perform the most arduous and responsible duties for only at most a limited remuneration. The date from which service should commence would be a more difficult matter. A large majority of the teachers have been employed for some years, and are certainly entitled to commence from that time : but could they afford to pay the back arrears ; or could the country afford for some years to lose their services ? Some one must give way. Let *us* do it with a good grace, and say to the Government, "We are content to date our claim to superanuuation from the inauguration of the Public Schools Act of 1866." There will be perhaps some cases of individual hardship, but in this, as in other things, we only desire "the greatest good to the greatest number." I cannot, more than yourself, endorse Mr. Sheldon's term, "flunkey," a peculiarly offensive one to every gentleman, and especially to those who fill the responsible position of instructors of youth. If such there are in our ranks, the sooner they find a more congenial sphere of action the better it will be for all of us. Neither do I agree with him in believing that "the limited circumstances of teachers, in most of the country towns, altogether forbid the construction of independent societies." We cannot afford to sit still and allow others to work for us ; we must put our own shoulders to the wheel, even at the risk of being smeared with a little of the mud which is clinging thereto, or even at a little personal inconvenience and expense to ourselves. There is not, I am afraid, space left me to enter upon the benefit which the societies above referred to would confer upon the teacher in an educational and moral point of view, but with your permission I may refer to this on another occasion.

I am, Sir, yours truly,
WM. MATTHEWS.

Public School,
Grafton, 15th May, 1868.

[It is very doubtful whether the Legislature would consent to vote "five or ten thousand pounds" for any scheme of Superannuation that would not admit of the whole body of the Teachers under the Council of Education participating in it. To date from the 1st January, 1867, would exclude all those who cannot reasonably expect to continue as many years in the service after that as would entitle them to a pension or Superannuation allowance.—EDS.]

THE TEACHER'S POSITION.

To the Editor of the Australian Journal of Education.

SIR,—As you have entered your emphatic protest against the application of such a term as "flunkey," to Teachers in the Service of the Council of Education, will you permit me to protest, with equal emphasis, against ever having made such an application of it to them. On referring to my letter, it will be seen that the sentence containing the words you have taken such grave exception to, runs as follows :—"It will be found, however, ere long, or I much mistake the general aspect of public opinion on the education question, that in many things affecting the credit and interest of our profession, we must put forth united action, or be content to move on in our small orbits from year to year, our claims not recognised by the Legislature, and ignored by the public, while we, as regards social estimation, [*i.e.*, the estimate formed of us and our position] oscillate between flunkeys and gentlemen." Now this statement is certainly not made by *me* as applicable to the teaching body, nor is it put forth as expressing, in the most remote degree, the opinion entertained of them by the Council of Education. In proof that I have not used the term so unauthorisedly as your strictures imply, let me refer to the leading article in the first number of this Journal, which opens as below—"Before the Teacher's work can accomplish all the good which as an agent of civilzation it is designed to effect, a more distinct recognition of the claims of his office to consideration and respect is needed from the general public." At the close of the paragraph you say "But hitherto the public generally has appeared to regard the schoolmaster's occupation with some amount of *contemptuousness* not grateful to the spirit of a man proud of his profession and devoted to his work." Sometimes even good Homer nods ; and sometimes even Editors make mistakes.

Now that you have shown the steps teachers should take to procure a hearing in the matter of Superannuation, I earnestly hope they will come forward unanimously, and give a "clear and impressive statement of their claims" at once. *Tetigisti rem acu*, Mr. Editor ; and if we, as a profession, are as sensitive as our critics often say we are, the puncture must be so felt as to lead us to adopt the course you have so *pointedly* indicated. I am of the opinion that timidity is the principal cause why teachers are so often silent, when they should speak out. Each is afraid to be the first to speak, apprehending that by doing so he will make a *faux pas*, and thus do more harm than good. Enough, however, has now been said to make them unite, for if they wait until Parliament, or any other body, "thrusts a benefit upon them," they will wait in vain. They too well know that such a benefit as this will be procured only after strenuous and prolonged efforts, begun, and in part sustained by themselves, but necessarily depending for success to a large extent upon the support of those who are the duly constituted exponents of their position as well as its duties. If it be eventually decided to make education free in all schools under the Council of Education, then Superannuation will be an object more than ever desirable, though, as far as very many country schools are concerned, the average amount of fees received is so trifling, and the number of gratis pupils so many, that education, in many places, is virtually free even now. A regulation having the above effect will remove one of the most formidable objections to the inclusion of teachers under the benefit of the Superannuation Act; others exist, but will yield to firm and constitutional pressure, if brought to bear unitedly upon them. In justice to the Council of Education, and ourselves as Teachers, I must echo the sentiment expressed in your January number, that, "while it is desirable that the public estimate of the importance and value of the Teacher's duties should be raised, it is also necessary that those duties should be discharged by men of undoubted competency and efficiency. It behoves Teachers, therefore, to promote their own interests by adding to their claims to be regarded in this light." One very powerful means of thus "adding to their claims," is in the formation of Mutual Improvement Societies, and the hearty support of them in every important district. It is sad, it is a grave error, and one that militates much against the best interests of Teachers, to allow any private feeling, shall I say, petty jealousy, to prevent them from uniting and striving together to raise their attainments. With your permission, Sir, I shall recur to this subject, and meanwhile,

I am, yours respectfully,
J. SHELDON.

To the Editor of the Australian Journal of Education.

SIR,—I beg, with your permission, to express my views through the medium of the "Journal of Education," respecting the analysis of the clause, "everything seems to say aloud," which appeared in your issue for May. It is there stated that "aloud" is an extension of manner to the predicate "seems." With this view, I beg to differ, because qualifying and limiting words are "enlargements," "attributes," or "extensions" of those words which they qualify or limit. In the clause cited, "aloud" qualifies "to say," and expresses manner, and hence I consider that it should be analysed as an extension of manner to the object "to say."

By a further consideration of such clauses, as "everything seems to say *now*," "everything seems to say *here*," &c., it appears to me that, when the Object is a verb, it may be extended, as the Predicate is by adjuncts of manner, time, &c.

Hoping to be favoured with an opinion upon the subject,

I am, Sir,
Your respectfully,
HAWKESBURY.

[Our correspondent is in error in stating that "aloud" is said to be an "extension of manner to the predicate 'seems.'" It is simply called an extension of the predicate, of which "to say" is a part. We did not insert "Mudgee's" analysis as perfect, but as one of the best furnished.—EDS.]

TIME TABLES.

To the Editor of the Australian Journal of Education.

SIR,—A Pupil Teacher, writing in your May Number, desires to know what are the uses of a Time Table, and the principles of its construction. I will endeavour to supply the information, hoping that in the meantime it will be answered more satisfactorily by some one more competent, and who has books treating upon the subject that he may consult.

One use of the Time Table is that it promotes order in the School. If there be no Time Table, the Children cannot know what lesson will come next, and therefore do not know what places to take. The Master does not know what lesson to give, and loses time making up his mind which to choose for all his classes, and everything is done by impulse; but let there be a well constructed Time Table, then every child knows exactly what lesson is coming, and just where to go; the Master knows just what he has to teach, every thing falls in its proper place, and all goes on orderly and quietly.

The Time Table is of use in that it prevents too much time or attention being paid to any subject which the Teacher may feel great interest in. Unless a check be placed upon him, he may devote too much attention to that subject, and exclude others of equal importance. The Time Table, by fixing a time for each lesson, prevents any being made too long, and thus becomeing a weariness to the Children.

Lastly, the Time Table is of use because it conduces to the regularity and punctuality, not only of the arrangements of the School, but of the Children. When they see school opened and closed, lessons commenced and finished, and every thing carried out with precision and exactness, it will beget in them a love of order and system, which will grow with their growth, and prove, in the incalculable benefit it will be to them, not the least good lesson they derived from attending School.

The construction of a Time Table requires many and great considerations. The Teacher must be thoroughly acquainted with the attainments of his pupils, so as to give the greatest amount of time to those subjects wherein they are deficient. He must also consider the relative value of the subjects taught to the particular children with whom he has to deal, and be careful to give the most time to those of the greatest importance.

The Teacher must also be careful so to arrange the lessons that one class at least may be engaged is silent study, while the others are receiving oral instruction; he must arrange them so that he may be able to spend a portion of his time with each class, and take part or the whole of a lesson on each subject with each class. To see that each subject receives a due share of attention, that all classes are duly cared for, that the lessons are so arranged that one class will not interfere with another, and that no lesson is made too long, requires much judgment, foresight and discretion; but let no Teacher think the labour too great, for he will be more than repaid by the assistance it will afford him. Indeed, he may as well expect an army to be victorious without a General to direct, as to expect to conduct a School efficiently and properly, without a carefully and well constructed Time Table.

Appologising for trespassing so far on your valuable space,

I am, Sir, yours respectfully,
Tirranna. A. LANSDOWN.
Near Goulburn.

WALKING AND ITS USES.—Dr. A. L. Wood, in the *Herald of Health*, gives the following sensible advice on walking:—Exercise is absolutely indispensable to the physical well-being of man, and walking is one of the most useful of the various modes of exercise. As a people we ride too much and walk too little. If we are in the country, and have a mile or two to go, we wait—perhaps long enough to walk the entire distance—for a horse to be got ready, and then sit lazily in our seats while this noble animal rapidly carries us to our destination. If we are in the city, and have a few blocks to go, we get into an omnibus or a horse car and sit our journey out, just as though we were not created with legs the same as horses are. The nation's legs are rapidly diminishing in size for the want of exercise, hence the demand for false calves and for easier modes of locomotion is on the increase; so also is dyspepsia, liver complaint, general debility, and other physical derangements, which result, in greater part at least, from a lack of muscular action. The special advantages of walking, as an exercise, are many. Perhaps the most important is that it takes us out of doors, and keeps us there in the pure air and the bright sunshine. The exercise which is gentle and prolonged, increases not only the frequency, but the fulness of respiration, thus bringing a much larger quantity of oxygen into the lungs and through them to the blood, thereby giving the finishing touch to the process of digestion and vitalising "the red current of life." Another advantage to respiration is this: when a person is sitting or standing still the exhaled air from the lungs, which is unfit to be breathed again, fills the space about the face, and a portion of it is taken into the lungs at the next breath: especially is this the case if the head is bent forward; but when a person is walking and expels the air from his lungs, his head is carried past the expired air before he draws in another breath, and thus he gets a supply of pure air, with its full proportion of oxygen, at every inspiration, and thus is the vigour and vivacity which results from exercise in the open air partially accounted for. Walking is very beneficial to the digestive organs, by the gentle yet constant motion which it imparts to them, and which is essential to their long-continued healthful action. It brings into action and properly develops more muscles than any other one mode of exercise. It tends to equalise the circulation of the blood. Pedestrians, rope dancers, and those who exercise their legs a great deal are not troubled with that almost universal complaint—cold feet. The simple reason is that exercise calls the blood to the parts exercised, and the blood feeds and warms. One great objection to walking is that it takes so much time. True, it takes some time: more, as a general thing, than it does to ride; but so does the accomplishment of anything desirable; and is not good health desirable? In the end, however, it results in the saving of time, by preserving the health and increasing the vigour of all the physical and mental functions. In no way is there so much time wasted, to say nothing of vitality, as in being sick, and yet people are unwilling to give a little time to keeping well. To obtain the greater amount of good from walking, it must, like everything else, be done right. In the first place, it is always best to have some definite object in view when going out to walk, some particular place or object of interest to see, some purpose to accomplish, or some friend to visit, and not walk merely for the purpose of walking, if any other object can be attained at the same time. But better walk without any other object than not walk at all. The position of the body while walking is of great importance. The body should incline slightly forward from the hips, if walking slowly, and the inclination should increase according to the rapidity of the walk. The head should be kept on a line with the body, the shoulders and hips held back, and the chest unimpeded in its action by tight clothing or otherwise. The arms should be allowed to swing freely at the side. The respiration should be carried on entirely through the nostrils, and not through the mouth. In commencing a long walk walk slowly and gradually increase the speed. Invalids and persons who are unaccustomed to walking should begin with short walks, being careful not to overdo, and increase the distance as their strength and endurance increase. Any one who will practise this precept—never ride when you can just as well walk—will not only be more vigorous and healthy, but will accomplish far more than he or she otherwise would.

NOTICES TO CORRESPONDENTS.

Five-Dock.—*Ornithorhynchus.*—Received too late: another is given in this issue, having been set up since last month. We shall doubtless return to this subject on some future occasion, as we intend to go pretty largely into the Natural History of Australia, when we shall be happy to hear from our correspondents again.

Anonymous.—Some correspondents who favoured us with Questions and Solutions, forgot to enclose their proper names. In accordance with our rule, these could not be attended to. We may also add that we feel disinclined to notice communications from non-subscribers.

Analysis.—Passages sent for Analysis, or Parsing, &c., should have references to the works and pages whence they are taken.

J. M. S. and others on the subject of Superannuation. We should be glad to know what proportion of income you would feel disposed to contribute, and what retiring allowance or pension you would expect to receive in return.

The Albino Woman.—Who furnishes us with the statement?

Philelpis.—We do not agree with you as to the "reasons why Scholastic Teachers do not have their proper status in Society." You state, 1, "that Teachers are not sufficiently independent of the people;" 2, "that they are placed under the surveillance, in many instances, of men of a stratum of society far inferior in intellectual attainments and gentlemanly demeanour;" and, 3, "that the mode of addressing, per epistolas, Teachers under the Council of Education tends to lower our profession in the eyes of the public." There are doubtless difficulties connected with the payment of School Fees and the constitution of Local Boards, but your solution is, in our opinion, impracticable. We put it to the common sense of our readers, whether Teachers would be more respected or the profession held in higher esteem, if the Council of Education addressed every Teacher in its service as an "Esq.," instead of plain "Mr."?

W. Killick.—In the sentence, "He promised to join the enterprise," the simple predicate may be either "promised," or "promised to join," and the conpletion may be "to join the enterprise," or "enterprise." The meaning of the sentence will be different according to the mode of analysis adopted. Your rendering, "He promised *us*, &c.," is out of the question. If "us" be permitted at all, the analysis will be—

	Subject.	*Simple Predicate.*	*Completion.*	*Extension.*
Compare	He	promised	to join the enterprise	(to) us.
	He	promised	a horse	(to) me.

S. P. M.—Your communication will probably appear in our next issue.

PHILELPIS.—Your reply to J. Sheldon has been anticipated by T. C. D. The article on "Classical Education," inserted in this issue, should decide this question.

REQUIRED for our next number an article on the Mammalia of Australia (not to exceed in length 8 pages of note paper,) to be followed by others on the different species in detail; also articles introductory to the study of Geology, Botany, Chemistry, &c.

QUESTIONS FOR SOLUTION.

1. A kangaroo starts at a distance of 40 yards from a hound; 40 seconds afterwards the hound sees it, and starts in pursuit; the former running at the rate of 18 miles, and the latter at 25 miles per hour, in what time will the hound catch the kangaroo, and how far will it have run? PUPIL-TEACHER.

2. To complete a certain work, B would take twice as long as A and C together, and C thrice as long as A and B together; A, B, and C, by their united efforts, can do it in 5 days; in what time could each do it by himself. PUPIL-TEACHER.

3. In an orchard containing 444 trees, there were twice as many Apple trees as Quince trees, three times as many Orange trees as Apple trees and Quince trees together, and 5 more, and five times as many Peach trees as Orange trees and Apple trees together, and 12 more. How many were there of each kind? G. F. BLACKERS.

4. Reduce 5 acres 2 roods 31 perches 27 square yards 8 square feet 120 square inches to square inches. Prove the work by Reduction ascending. ERRINGDEN GRANGE.

5. If a legacy of £1200, less 5 per cent. duty, is to be paid to a person whose age is 17 when he becomes 24 years old, what sum paid to him now would be equivalent to it, interest of money being at 5 per cent.? L. R.

6. The three sides of a triangle are 13, 14, and 15 respectively. Required the perpendicular on the side 15 drawn from the opposite angle. W. S.

7. The three sides of a triangle are 13, 14, and 15 respectively. Required the side of the inscribed square. W. S.

N.B.—To be done within the limits of the first two Books of Euclid.

8. Assuming that New Orleans is in 90 deg. W., and Alexandria in 30 deg. E., find what time it would be at Alexandria when at New Orleans it is 9h. 45m. p.m. on the 31st December, 1867; and what time would it be at New Orleans when at Alexandria it is 3h. 15m. a.m. on the 1st of March, 1868. G. F. BLACKERS.

9. Analyse and parse the following passage:—Ellen wished *most* to see the elephant, but James longed to look at a lion, and to hear *him roar*. J. M. S.

10. Is the expression "First, second, and third verses" correct, and why? PLANETA.

FOR OUR LADY READERS.

1. How does the Italian word "Amore" express the qualities of a good partner for life? PLANETA.

Answer and Analyse the following Charade by G. Canning:—

2\.
There is a word of plural number,
A foe to peace and quiet slumber;
Most nouns you plural make by adding "*s*,"
But here, how strange the metomorphose is,
Plural is plural then no more,
And sweet what bitter was before. PLANETA.

3. Arrange 1 to 49 in a square, so as to reckon 175 when added vertically or horizontally. PLANETA.

4. Arrange 1 to 64 in a square of 8 lines, so as to reckon 260 when added vertically or horizontally. STELLA.

The squares required by Stella, in No. 5, have been properly constructed by Planeta, L. Rockliffe, Emily, and Albury. The solutions by the last mentioned are given.

Solution *a.*—1 to 9 to reckon 15.

5	3	7	=	15
1	8	6	=	15
9	4	2	=	15
15	15	15		

Solution *b.*—1 to 16 to reckon 34.

16	9	6	3	=	34
15	10	5	4	=	34
2	8	11	13	=	34
1	7	12	14	=	34
34	34	34	34		

Solution *c.*—1 to 36 to count 111.

25	8	15	24	3	36	=	111
14	26	5	22	35	9	=	111
18	10	21	23	12	27	=	111
13	19	34	7	32	6	=	111
30	31	16	2	28	4	=	111
11	17	20	33	1	29	=	111
111	111	111	111	111	111		

ANSWERS TO QUESTIONS IN No. 5.

Question 1.—Solved correctly by A. A., B. P. S., C. Park, G. T. B., J. O'R., J. and W. Hullick, Church Hill, W. S., P. Downey. Answer: 46.4758. when the error lies in one arm being longer than the other. Doctum, D. Treehy, Keira, R. C., Scrubber, and W. B. G. give the weight as 51 lbs., assuming that the error lies in the unequal balance of the scales.

The following is the solution by P. Downey:—

Let AB, BC, respectively, be the long and short arms of a false balance, and let P be a piece of meat, which, when suspended in the long arm, weighs 72 lbs., and in the short arm, 30 lbs.

Then by equality of moments, we have

$$AB \times P = BC \times 72, \text{ and}$$
$$BC \times P = AB \times 30.$$

Multlplying these equations together, and striking out common factors, we get $P^2 = 2160$, and $P = 46.4758$ lbs.

Question 2.—Solved correctly by A. A., G. T. B., Church Hill, C. Park, Doctum, D. Treehy, Emily, B. P. S., John Brown, J. and W. Hullick; Keira, M. B., M. M., P. Downey, R. C., Scrubber, W. S., W. B. G., E. Walker, W. Hinton, and E. Hewison. Answer: £2,242.

The following is the solution by Scrubber:—

$\frac{1}{2}$ of money left to two Sons.
and $\frac{1}{2}$ „ „ between Nephew and Wife.
$\frac{1}{2}$ of $\frac{1}{2}$ = $\frac{1}{4}$ left to Nephew.
Therefore $\frac{1}{4}$ „ Wife.
By the question $\frac{1}{4}$ = £560 10s.
Therefore $\frac{4}{4}$ = £560 10s. × 4 = £2,242.

Question 3.—By A. A., Doctum, Emily, G. T. B., John Brown, J. and W. Hullick, Keira, L. R., M. B., M. M., R. C., Scrubber, W. B. G., W. Hinton, E. Hewison, and E. Walker. Answer: $11\frac{1}{9}$.

The following is the solution by M. B.:—

$$\begin{array}{lcccccccl} & \text{apples.} & & \text{apple.} & & \text{d.} & & \text{d.} & \\ \text{As} & 8 & : & 1 & :: & 6\frac{1}{2} & : & \frac{13}{16} & \text{price of 1 apple at 8 for } 6\frac{1}{2}\text{d.} \end{array}$$

$$\begin{array}{lcccccccl} & \text{apples.} & & \text{apple.} & & \text{d.} & & \text{d.} & \\ \text{As} & 3 & : & 1 & :: & 2\frac{1}{2} & : & \frac{5}{6} & \text{price of 1 apple at 3 for } 2\frac{1}{2}\text{d.} \end{array}$$

$$\begin{array}{lccccc} & \text{d.} & & \text{d.} & & \text{£} \\ \text{As} & \frac{13}{16} & : & \frac{5}{6} & :: & 108\frac{1}{3} = \frac{16 \times 5 \times 325}{13 \times 6 \times 3} = \frac{26000}{234} \end{array}$$

$= 111\frac{1}{9}$, ∴ $11\frac{1}{9}$ per cent. will be the gain.

Question 4.—(Solution by Arithmetic).—By A. A., C. Park, D. Treehy, John Brown, J. O'R., Keira, P. Downey, R. C., Scrubber, W. S., W. B. G., E. Hewison, E. Walker, Answer: 90.

The following solution is by David Treehy:—

Four times the distance travelled on 1st day $- 1 + 2 + 3 = 6$ miles = the whole distance, and 5 the first day's travelling $- 4 + 5 + 6 + 7 + 8 = 30$ miles = distance travelled homewards; by subtracting the former equation from the latter, we find the distance travelled on first day = 24 miles and $24 \times 4 - 6 = 90$ miles.

Question 5.—By A. A., Church Hill, D. Treehy, John Brown, J. O'R., Keira, M. B., P. Downey, R. C. Scrubber, W. B. G., E. Hewison, and E. Walker. Answer: 5, 10, 20, 40.

The following solution is given by E. Walker:—

$$\begin{aligned} \text{Let } x &= \text{the 1st term} \\ c &= \text{the common ratio} \\ \text{then } x + cx &= 15 \ (a) \\ \text{and } c^2x + c^3x &= 60 \ (b) \\ \text{divide } b \text{ by } a \text{ and } c^2 &= 4 \\ \therefore c &= 2 \\ \text{By } (a) \ x + 2x &= 15 \\ \therefore x &= 5 \end{aligned}$$

Then $5 \times 2 = 10$ or 2nd term; $10 \times 2 = 20$ or 3rd term; $20 \times 2 = 40$ or 4th term. The numbers are 5, 10, 20, 40.

Question 7.—Answered correctly by E. Hewison, Keira, and Joseph Taylor. One esteemed correspondent appeals to Scripture to prove that the conclusion is false, although the rules of logic amply suffice to detect the fallacy. The following is Mr. Taylor's explanation:—

"If the arguer were to state, that the first premiss means, that it is a sin to kill *any* man, there is no fallacy *formally*, nor even a false conclusion, according to some.

Let us suppose however, that it is a fact, that, under *some* circumstances, it is *not* a sin to kill a man, then the arguer, if he *designedly* utters a fallacy, wishes his hearers to believe that the conclusion follows, although the expression—"It is a sin to kill a man," must now, if true, mean—"It is a sin to kill *most* men."

Question 8.—Answered correctly by E. Hewison, Keira, and Joseph Taylor. Some of our geometrical friends have failed to perceive that this illustration was taken from the proof of Euclid, I., 1.; and a Teacher from whom we should have expected better things, sends us the following:—

"This syllogism is faulty in the major and minor *premesis* (sic), and also in the conclusion. A is not equal to B, C is not equal to B, A is not equal to C. A is formed of eight lines, B of a right line and curves; C is a curved line only. But the thing represented by A is equal to the (thing) represented by B. The thing represented by C is equal to the thing represented by B. Therefore the thing represented by A is equal to the thing represented by C."

Answered by Joseph Taylor:—

"In this question, the view taken is apparently that the relation is not "Illative." I do not venture to offer an opinion on this point, but hope it is not irrelevant to remark, that the argument given is not, I think, a *Syllogism*. Would not the following be the *Syllogistic* form for it? (*Certainly.*—EDS).

In any case, when two things are each equal to a third, they are equal to each other.

A and C are two things each equal to a third (viz., B.)

∴ A is equal to C."

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THE

Australian Journal of Education.

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SUPERANNUATION.

We may fairly congratulate the Teachers under the Council of Education that the question of a Superannuation Fund has now assumed such a practical form as to justify the expectation of a definite result at no distant period. The report of the proceedings taken in Sydney with reference to this matter will be found in another part of this issue of the Journal. As this is probably the last time that we shall advert to the subject, we earnestly invite the attention of Teachers to the report, and trust they will fully and carefully consider the course they will adopt with reference to the memorial to which they will be requested to append their signatures.

It is possible and natural that there will be considerable variety of opinion as to the benefit of the proposed Superannuation Fund, and corresponding diversity of action. Some Teachers may probably regard the advantages as too remote and unsubstantial to warrant them in joining in the application; others may object on principle. From the number of false and absurd rumours that have already reached us, it is not unlikely that some Teachers misunderstand the whole question, while others are apprehensive as to the justice of the proposed measure, supposing that some by an arbitrary exercise of power on the part of the Council of Education, they will be excluded from all participation in the benefits it may offer. No surprise will therefore be felt if any Teachers should decline to sign the memorial, although a large majority of their brethren may regret that they should feel themselves called upon to adopt such a course.

But we trust there will be, on both sides, consideration for the opinions of others. Among gentlemen, an honest difference of opinion is not regarded as a reason why mutual respect should no longer be entertained; and if Teachers are true to their vocation, they will act upon this principle. The practice of imputing dishonourable motives to those who disagree with us is especially to be deprecated. Nothing could more effectually lower the profession in public estimation than the practice sometimes indulged in of representing the Teachers opposed to our views as actuated by base or improper designs.

With this expression of hope that the subject will be temperately discussed by Teachers, and that they will carry out their decision in a generous and conciliatory spirit, we leave the matter for the present. The steps already taken are now within the cognizance of Teachers, and it is for them to determine whether it is desirable to proceed any further, or to abandon altogether the attempt to obtain a Superannuation Fund.

A SYSTEM OF TEACHING ARITHMETIC.

[*Continued from Page* 140.]

[*We have considered it desirable, in order to draw attention to variout methods of teaching and to evoke discussion, to afford contributors opportunities of stating their views on such points ; but it should be understood that the Conductors of this Journal do not necessarily identify themselves with the opinions so expressed.*]

Short Division.—If the instructions in reference to the application of the *Multiplication* Tables, have been carefully attended to, there will be very little difficulty felt in imparting to children so clear a knowledge of Division, as to be able, after a few lessons, to perform any operation coming under that Rule.

We presume the Tables are thoroughly committed to memory, and that the child readily answers such questions as 4 times 7? How many sevens in 28? How often is four contained in 28? What are the component parts of 28? What number multiplied by 9, will make 54? How many dresses, of 9 yards each, would a piece of cloth containing 54 yards make? How often is eight contained in 79? What are the component parts of 123? Would not 11 × 11 + 2 do as well as 12 × 10 + 3?

These things being understood, the child will readily be able to divide any number by one digit, on being shown that the number, in excess of the component parts, is to be prefixed to the next digit, beginning at the left hand, and proceeding with them as a new number, the component parts of which are to be found as with the preceding; and so on, until all the digits in the dividend are gone over.

Let us suppose the number 798654 is to divided by 8. The pupil should be informed that this number has to be divided into eight equal parts. The number to be divided is called the dividend, and the 8, or the number of parts into which it is to be divided, the divisor. The question may be set down in this way: $798654 \div 8$, or $\frac{798654}{8}$. But the usual way of performing the operation, is to place the divisor before the dividend: 8)798654. When set down, we ask the pupil how often is 8 contained in 7. He replies 8 is not contained in 7 at all. Then let this 7 be prefixed to the 9, and what number will these two digits be? 79. How many eights in 79? 9, and 7 over. Prefix this 7 to the next digit, 8, in the dividend, and what will these two digits represent? 78. How often is 8 contained in 78? 9 times, and 6 over. What is to be done with the 6? Place it before the next digit in the dividend, when it will make 66. How many eights contained in this number? 8, and 2 over. We place this 2 before 5, and proceed in the same way until all the digits in the dividend are gone over. The digits representing the number of times the divisor went into each of these numbers is called the dividend.

In Division, we begin at the left hand, and proceed to the right, because the greater number is to be first divided. If we began with the digit indicating unity, we should find it indivisible; and, although, by uniting the 4 with the 5, by which we obtain the number 54, we might divide it, and find a remainder; but as we could not apply this remainder, or the remainder of any of the other numbers, so as to combine them, it would lead to no practical result. But when we begin at the left hand, we find the 7 to represent *seven hundred thousands*. We want to divide it into 8 parts. There is not a hundred thousand for each claimant, and they must consequently be taken as 70 *tens* of thousands, which may easily be divided among the 8. But there are 9 tens of thousands also to be divided, which, with the others, will amount to 79 tens of thousands. Each claimant of the 8 will receive 9 tens of thousands, and there will be 7 tens of thousands over. But as these must be divided, and also the 8 thousands, they may be put together, when they will make 78 thousands, the eighth part of which will be found to be 9 thousands, with 6 thousands over, which must, in order to be capable of division, be reduced to hundreds, and added to the number of hundreds to be divided, and, in this way, continue the division to the end. The result will be, in this case, 99831 + 4, which being further reduced and divided, will give ½.

LONG DIVISION is effected by precisely the same process. The remainders, after each division, being regarded as set before the next digit in the dividend. Suppose we desired to have 798654 divided into 918 parts, and directed a lad, who could readily divide any number by one digit, to do it, he would feel greatly alarmed at the task. But his embarrassment after a little, gives place to confidence, when he is shown that the 918 is simply to be put down as a divisor, and the number to be divided, as the dividend. Probably he will feel bewildered when asked to divide by 918. He should now be asked what he did in *Short* Division when dividing by 9. He will answer he divided the 9 into the first digit to the left in the dividend. But if the 9 would not go into that digit? Then take the next digit. Let him be told to act on the same plan here. In *Short Division*, when the divisor went into the first digit, he found how often the divisor was contained in it, and if it "would not go," or was not contained by it, then place one digit more of the dividend with it. So also in *Long Division*, if the divisor will not go into the same number of digits as are in the divisor, he must take a digit more. In this case, he has three digits (918) in the divisor, but they will not go intc, or are not contained in 798, (the three first digits of the dividend.) Now he must take another digit of the dividend, 6, and enquire how often is the divisor, 918, contained in this part of the dividend, 7986. It will at once be evident to him that the divisor is contained in this number, but it is most likely he will be unable to conjecture how many times. The prudent teacher will not tell him, but in accordance with an invariable rule, refer him to what he has already learned, so as to put him in the way of finding it out himself. Let him be asked how often is 9 contained in 79, reminding him that if he cannot tell he must continue awhile longer at Short Division. He will readily answer 8 times. He is now to be informed that 900 is contained in 7900 the same number of times. He is now to be asked how he knows that 9 is contained in 79 eight times; when he will reply: Because 9 times 8 are 72, which, with the 7 over, make 79. He is now to have it pointed out that he has had to multiply the divisor by the assumed number of times it is contained in the 79. So now he has to multiply the divisor, 918, by 8, the number of times he supposes it is contained in 7986. Even this simple direction will sometimes appear to boys a demand beyond their ability, but when told, that if it be too much for them to do, they must go back to Multiplication, they then find no difficulty in multiplying the divisor by the 8, which they should be directed to set down in a separate place, and call it the first digit in the quotient; and also to place the product under the 7986. The pupils should now be directed to subtract this product—7344 from the 7986, its minuend, just as we had to subtract 72 from 79, to ascertain what is over when we divided it by 9. It is probable that with the array of figures before him he will feel so confused as not to know that he is only required to subtract two numbers in the usual way. When this is pointed out, they not unfrequently feel amused at their own want of perception. In Short Division, they remember they placed what was over before the next digit in the dividend. So here they do precisely the same thing, by bringing down 5, the next digit, in the dividend. They are now to see how often the divisor is contained in this number, 73445. Let the pupils be given to understand clearly, by frequent repetition, and trials both under and beyond the proper number, that 918 will go into it, that *when the number of times a divisor is supposed to go into a dividend, will produce a product greater than its minuend, it must be tried by a less digit; and when the remainder is greater than its divisor, it must be tried by a greater.* When Long Division is thus placed before pupils in its proper light, they soon perceive that there is very little new in it to them—that it is simply Short Division, Multiplication, and Subtraction, in a new dress.

(To be continued.)

HOW TO WRITE AN OFFICIAL LETTER.

(Continued from page 169.)

THE words *acquaint*, *inform*, *intimate*, and *notify* have the same meaning, but there is considerable difference in their several applications. *To acquaint* is more courteous than *to inform;* and *to intimate* may be employed to convey a severe rebuke, or it may be understood as intentionally offensive, according to the rank and position of the respective correspondents. The correlates of these words, *information*, *intimation*, and *notification* are more uniform in their meanings.

Before proceeding to examples of official correspondence, it may be useful to mention a few particulars with respect to what may be termed the mechanism of letters. These are matters which are very often overlooked and even despised, though they are really of great and sometimes of vital importance.

As to the size of the paper to be selected for the purpose, it may be remarked that the civilized world has agreed in adopting foolscap. Where this cannot be obtained, letter paper may be used—note only as a last resource. One of the numerous disadvantages of writing on note paper is that from its small size it is apt to be mixed up with other letters and to be lost sight of. This circumstance often produces delay that may prove a source of trouble and loss to the writer.

A margin not exceeding one-third of the sheet in width should then be folded in such a manner that on the first and third pages the margin should be on the left hand, and on the second and fourth pages on the right hand. Some persons keep the margin always on the left hand—a most inconvenient practice when letters have to be preserved as records of an office. Others, whose wits appear to be in a topsy-turvy condition, turn the sheet upside down when writing the second page. This is also a most annoying habit, and leads the recipient of such letters, unless gifted with extraordinary patience, to conclude that they are as sensible when read backwards as when read in the usual fashion.

Let the ink be black, especially if the foolscap be blue. Even the most inconsiderate correspondent would pity the official who finds among the fifty letters he receives every morning, half a dozen written with a pale ink upon blue paper with a fine pen in a light scratchy hand. What wonder if said official, after vainly trying his eyes in the arduous attempt to decipher such letters, should throw them down till he can find an hour's leisure to enter upon the investigation of the characters used, in the same spirit that Champollion brought to bear upon his researches into the meaning of the Egyptian hieroglyphics. Every official hopes, some time or other, to have an hour's leisure; but this is one of the delusions to which officials are liable. The leisure hour never arrives, and the intended critical investigation never takes place. At last, after much delay, a guess is made at the meaning of the letters and they are answered accordingly. Probably some of the guesses are incorrect, and the errors have to be rectified by subsequent correspondence.

The style of penmanship is an important matter. Lord Palmerston in his letter on this subject, advocated broad printing, like italics, as most suitable for official correspondence. Without going so far as this, we would recommend a solid, compact style of writing, severely correct, and denuded of all turns, flourishes, and ornaments of any kind. If we were professional graphiologists, and a customer sent us a specimen of his handwriting in which many of these defects were visible, we should, in delineating his character, seriously advise him never to enter upon any business or profession in which the exercise of the thinking faculties was essential to success, on the ground that he was evidently not a Solon. We have seen letters in which the signature of the writers was completely surrounded with a halo of flourishes, reminding one of those old paintings in which the heads of cherubs are represented as peeping out from an envelope of cloud which conceals the remainder of their anatomy. A still worse fault is the affectation which leads men to write an illegible signature. One person signs his name entirely with capital letters; another introduces a capital into the middle of his signature; and a third commences well, writes three or four letters distinctly, and finishes with a scrawl representing by one stroke of the pen half a dozen letters. Others are unintelligible from beginning to end, and drive the unhappy clerk who records them to Directories and other aids to discover who the writers can be. The delay such persons experience in obtaining replies to their communications is a meet, but, unfortunately, not an effectual punishment for their want of legibility and disregard of the convenience, time, and business of their correspondents.

In commencing a letter, a space of at least an inch and a half should be left blank at the top of the page. In offices where a large number of letters is received, this space is reserved for the stamp, containing the name of the department and the date of receipt, and for the number of the letter. These points are of importance even to the writer, as they enable the head of the office to trace its history and guard against accidental neglect. But to the office itself there is this further advantage, that, if not done previously, the reserved space affords room for the *docket*. This term will now be explained.

At the head of every letter, except those of a purely routine character, and above the date, there should be written the briefest possible description of the contents of the letter, or its object. This is the docket. Of course, before the docket can be drawn up, the writer must realize distinctly to his own mind what he intends to write about. This is a valuable mental exercise to him, and if, by Act of Parliament, all letters were required to be properly docketed *by the writers* before they were entitled to a reply, the business of the country would be greatly simplified and Heads of Departments would rejoice exceedingly. The fact that so few correspondents know precisely what they intend to write about gives rise to a large amount of bad letter writing, much waste of time by officials, and much disappointment to the writers.

After the docket, comes the date. This includes the name of the place, the post town if requisite, and the day of the month and year. The date should invariably contain the address to which the reply is to be sent. This point is frequently lost sight of, especially by ladies. The consequences of such forgetfulness are always disagreeable, and sometimes irritating, if not distressing.

These precautions being duly observed, we can now commence our first specimen letter—one intended to convey information furnished under instruction from a competent authority. Let us suppose that a Surveyor has been instructed to survey a site for a Public School. His report might be of the following kind as regards *form* and *style.*

(DOCKET.)

Licensed Surveyor Compass to the Surveyor-General, transmitting Plan and description of Public School site at Floggee Floggee.

(DATE.)
Camp, Wild Duck Creek, Menindie,
20th June, 1868.

Sir,

I have the honor to report that, in accordance with the instructions contained in your letter dated 6*th April last, No.* 68, 5104, *I have measured the ground appropriated as a site for the proposed Public School at Floggee Floggee. The Plan and description are transmitted herewith.*

2. *I beg to state further for your information, that the site appears to me ill adapted for the purpose intended, being low and swampy; there is no timber in the vicinity and the water is brackish.*

I have the honor to be,
Sir,
Your most obedient Servant,
JOHN COMPASS,
Licensed Surveyor.

The Surveyor-General,
Sydney.

(To be continued.)

HALF-TIME SCHOOLS.

THE schools established under this title are likely to increase in number, and will soon form no inconsiderable proportion of the whole educational organization of the colony.

The Council of Education has issued special rules for their management, and their arrangements seem now to be tolerably complete. The present appears therefore a fitting occasion for explaining the objects and requirements of Half-time Schools. As our Journal circulates throughout the length and breadth of the land, it may be the means of giving information on this subject to persons interested in education in the interior, and induce them to take steps for establishing schools in their own neighbourhood.

Half-time Schools are intended to bring the means of education within the reach of people residing in localities too sparsely populated to admit of the establishment of schools of the ordinary kinds. For example, in newly settled agricultural districts it might be practicable to institute such schools when even Provisional Schools are beyond the means of the people. But it is chiefly in the pastoral districts that Half-time Schools will be found of most service. On extensive runs, where shepherds, or stockmen, with their families, are located at distances of five or six miles from each other, it will often be possible to collect ten or more children at one central spot, and a like number at another place. Proprietors of runs and their superintendents, if disposed, can greatly assist the work of education in such localities, and thus promote their own interests and the general good at the same time. The existence of a school for their children within a reasonable distance is an inducement to married men to remain in their situations, and tends to remove their reluctance to take employment in the interior.

The designation "Half-time," applied to these schools, is evidently intended to indicate their chief peculiarity. The pupils are under instruction for only half the time they would be taught in a school of the ordinary kind. The best division of time between two of these schools would be to teach one in the morning and the other in the afternoon. If, by reason of distance, or other obstacle, this arrangement should be impracticable, each might be taught on alternate days. Any arrangement which allows a longer interval than a day to pass without instruction, seems to us less likely to be effectual. Experience in the home country goes to prove that children who are engaged in manual labour one half the day and attend school during the other, make at least equal progress with those who receive a full day's instruction. With judicious management, equally favourable results would, we doubt not, be obtained in this colony. In fact the extract from the Inspector's account of Half-time Schools, published in the Council's Report, implies that such had been the effect of the teaching even under the imperfect arrangements hitherto in force.

To carry out the objects of the Council, a staff of Teachers is required, not deficient in attainments, but gifted with the rarer qualities of energy and force of character, combined with discretion. Young men of active habits might after a brief period of training become qualified in all the professional requirements for the office of Teachers of Half-time Schools. After serving in this capacity for a few years, during which they would gain experience and thus qualify themselves for a wider field of duty, while they, at the same time, rendered good service to the Council and to the State, they could enter the Training School with a view to obtain an appointment in a school of the ordinary kind. Such a course to many minds would prove highly attractive. The comparative freedom, the variety, the *adventure* inseparable from the office would offer irresistible charms; the mixture of outdoor exercise with the sedentary occupation of teaching would be highly conducive to health; and the opportunities for mental improvement would be numerous and regular. An observant man could not fail to learn much respecting the various departments of natural history, and he must be dull indeed whose knowledge of human nature was not increased by contact with the people among whom he lived and laboured. The whole life of a Half-time School Teacher seems to us to be of a bracing description, giving occasion for the development of all the manly elements of character—vigor, decision, prudence, and largeheartedness, and underlying the whole a strong sense of duty. This last qualification must indeed be the foundation. The peculiar character of the people with whom he will be associated, their mode of life and habits of thought, together with the general absence of external control, will prove to be strong temptations to a young man whose principles are not firmly settled in truth and probity. He will often require to be the example, without appearing to be the censor, of the less scrupulous of the parents; he will have to uphold the right and discountenance wrong without making himself obnoxious as a spy or an informer; and while by the consistency and uprightness of his own life he is a safe pattern for imitation to the well-disposed, he must endeavour to lead those inclined to improper courses to walk in the path of duty.

The services which men of this stamp would render to the country can hardly be overestimated. Such men are needed, and we should be glad if this fact could become widely known throughout the colony. Although none possessing the requisite qualifications would be unwelcome, it is to the young natives of the colony that our words are chiefly addressed. The inducements to enter upon the career of a Half-time Teacher appeal with redoubled force to them—love of their country, the hope of benefiting their younger fellow-countrymen, the evil to be prevented, the good to be effected, all speak to them with especial effect.

The following are the special rules for the Management of Half-time Schools :—

I.—ESTABLISHMENT OF SCHOOLS.

1. Half-time Schools may be established wherever twenty children of the school age are residing within an estimated radius of ten miles from a central point, and can be collected in groups of not less than ten children in each. *(Regulations, Article* 9, *Section II.)*

2. Aid will not be granted towards the establishment and maintenance of Half-time Schools unless suitable Schoolhouses and sufficient and proper furniture be provided.

3. No Schoolroom will be approved unless it be ten feet at least in width, be floored, be provided with a fire-place, and be properly lighted and ventilated.

4. Aid will be given towards the erection of suitable Schoolhouses, provided the sites be vested in the Council, and there be a probability that the Schools so established will ultimately become Public Schools.

II.—ORGANIZATION.

5. Grants of School Books and apparatus will be made from time to time, as may be deemed expedient, and a full supply will be granted as a first stock to all Schools newly established. *(Regulations, Article* 14, *Section II.)*

6. The same Registers are to be kept, and the same Returns furnished as in Public Schools.

7. In addition to the duties prescribed in Article 42, Section II. of the Regulations, Teachers in Half-time Schools will endeavour to make themselves acquainted with the educational wants of their several Districts, will study to acquire a knowledge of the character of the people, and strive to deport themselves so as to win their respect and confidence.

8. As a rule, the number of Schools placed under one Teacher will be limited to two.

9. Every Teacher is expected to divide his time between the Schools under his charge, with the view of effecting the largest amount of good. Where practicable, it is recommended that he devote the mornings to the teaching of the one School, and the afternoons to the teaching of the other ; but should any other arrangement be found more suitable, the Teacher is at liberty to adopt it. In any case, the parent or guardian of each child is to be supplied with a Time Table showing the hours at which school will open.

10. Teachers will be paid Salary according to Classification.

11. The Council has approved of the following Scale of Fees for Half-time Schools :—

For one Child in a family	Ninepence per Week.
For two Children „	One shilling and threepence per Week.
For three Children „	One shilling and sixpence per Week.
For four or more Children in a family	One shilling and ninepence per Week.

12. In cases of proved necessity Teachers will be paid an annual allowance for forage, in addition to the Salary attached to their Classification.

III.—DISCIPLINE.

13. Teachers of Half-time Schools should carefully observe the Council's Regulations on this head.

IV.—INSTRUCTION.

14. As regards Instruction every Half-time School is to be conducted in all respects as a Public School.

15. The Course of Secular Instruction will be the same as that prescribed for Public Schools.

16. It is required to be regulated by the Time Table and Standard of Proficiency prescribed for Half-time Schools.

17. Teachers are required to carry out a systematic Course of Home Lessons. Exercise Books for this purpose will be provided by the Council, and these Books must be retained for the information of the Inspector of the District.

V.—GOVERNMENT.

18. When practicable, Boards will be appointed to supervise Half-time Schools, or the duty may be confided to a single individual.

19. In the absence of such authority, Teachers of Half-time Schools will hold themselves directly responsible to the Inspector of the District.

20. Teachers' Monthly Salary Abstracts will be signed by a member of the Board or by the Local Superintendent, and when no local authority has been appointed, by the Inspector of the District.

21. At the end of each month, a Report should be furnished to the Inspector upon the work done during that period.

THE STUDY OF THE CLASSICS.

[*Continued from page* 174.]

(The following Paper is the concluding part of one first published in an American periodical about 30 *years ago. As the question of the study of the Classics has recently occupied a considerable share of public attention, we thought it desirable to let our readers know the view entertained on this subject by the learned in that country. We hope to supply introductory lessons, with exercises and key, for those who desire to commence these studies, when this Journal is enlarged.)*

"But," says the objector, "did not Shakespeare contribute as largely to the formation of English literature as any you have named? 'He,' as Ben Jonson said, 'had small Latin, and less Greek.'" True; Shakespeare possessed superior native endowments, and could accomplish without a thorough education more than others can with it. He was an exception to all general rules. Besides, if his case show that classical studies are useless, it shows that all systematic education is useless. If all that is requisite to make a great man be to turn him loose upon the world in his youth, and leave him dependent on his own exertions, it is a wonder the world is not full of Shakespeares and Franklins; for certainly a multitude of young men are thus left to their own efforts, and under circumstances far more favourable to improvement than those of Shakespeare or Franklin. Six thousand years have produced but one Shakespeare, while they have produced thousands of good reasoners and deep thinkers; and this is quite as much as most young men may aspire to. Indeed if all our youth were left to their own resources, it is probable that multitudes would imitate Prince Hal or Falstaff, where one would conceive the idea of such a character, and write down the conception for the instruction and amusement of others.

"Many men," says Mr. Cheever, "think no employments practical, but those that are immediately mechanical, or those that minister to our bodily necessities, or those that afford knowledge whose application is immediate and evident. To such men God himself cannot appear as the Creator of the universe, as an

Architect of practical wisdom; for he has covered the earth with objects, and the sky and the clouds with tints, whose surpassing beauty is their only utility; but whose beauty is eminently useful, because man who beholds it is immortal; because it wakes the soul to moral contemplation, excites the imagination, softens the sensibilities of the heart, and throws round everything in man's temporal habitation the sweet light of poetry reflected from the habitations of angels, telling him both of his mortality and immortality, giving him symbols of both, and holding with him a perpetual conversation of the glory, wisdom, and goodness of God.

> 'To me the meanest flower that blows can give
> Thoughts, that do often lie too deep for tears.'

"To such men the employment of Milton, while writing 'Paradise Lost,' would have seemed less practical than that of the shoemaker at his next door; nor would it alter their views to represent that all the shoes the man could possibly make in a whole life-time would be worn out in a very few years, while the divine poem would be a glorious banquet and a powerful discipline to all good men and great minds for ages. Whatever in any degree disciplines the mind for effort, is practical, though for everything else it be utterly useless."

No man can appreciate the value of mental discipline till he has felt its influence; and if he be unacquainted with any science, or department of study, this very fact precludes the possibility of his forming a correct estimate of its utility. The only way to judge of what is practical, is to be practical; and the only way to arrive at a just estimate of the real utility of any branch of science, is to study it and master it. The true standard, by which we ought to estimate the benefit of intellectual training, is the capacity it creates for doing good. Some students, whose love of ease creates in them an aversion to all laborious exercise either of mind or body, seek a substitute for the prescribed course of collegiate study in extended reading. They admire the ready and flippant student, who, having a smattering of all knowledge, astonishes the uninitiated. They diligently inquire the cause of his marvellous fluency and ready wit, and find that he is a general scholar, a lover of miscellany. Hence they resolve to be readers, and scout the languages and mathematics, which so cramp the intellect, stifle the buddings of genius, and make a man a mere prosing pedant. They plunge at once into an ocean of miscellany, and seize upon this novel, that new poem, and the other review or pamphlet, studiously avoiding the good old standard works of English literature; because, forsooth they require study, and are almost as difficult to be understood as Latin. After carefully pursuing this labour-saving process of education four years, the student graduates, a mere superficial sciolist, with a small capital of fancy articles, to please the sentimental and romantic, and without the means of increasing it. It would be better to spend four years in the catacombs of Egypt, deciphering hieroglyphics, than to devote the same time exclusively to miscellaneous reading. The student would come out of his den better prepared for the business of life, with more strength of intellect for grappling with difficult subjects, than if he had spent his time in the mere dissipation of unthinking, superficial reading. I do not object to such reading in its proper place; but it should be resorted to as a relief from severer studies. All intellectual eminence is the result of patient thought. Mere reading, without study or reflection, will no more expand the young mind, than listening to sweet music. Either occupation would beguile the tedious hours of an unemployed mind. Hard study, patient, protracted study, discriminating study, is absolutely essential to success in literary and scientific pursuits. Miscellaneous reading does not furnish the necessary discipline. The young man who vainly imagines that such pursuits will qualify him for "the stern realities of life," and resolves to devote no more time to those studies whose practical utility is not apparent to his feeble mind, than barely to escape public disgrace, by that very resolve dooms himself to eternal mediocrity, if not to inferiority. Before such a person reads polite literature to polish his mind, it may be well for him to get some mind to polish. Reading, to be profitable, must be something more than a mere "beggarly day-dreaming." "Read," says Bacon, "not to contradict and confute, nor to believe and take for granted, nor to find talk and discourse; but to weigh and consider. Some books are to be tasted, others to be swallowed, and some few to be chewed and digested." It might be added, many are not to be read at all; for it can scarcely be doubted that an indiscriminate gormandizing of popular literature only enfeebles the intellect, and begets a sickly sentimentalism. In regard to the alleged immoral tendency of the study of classic mythology, I can only say, I have never felt it, nor discovered it in others. It is, however, gravely maintained, that ancient authors foster a bloodthirsty spirit, and taint the soul by their licentiousness. It is also maintained, by some reformers, that gaols and penitentiaries are mere incentives to crime; yet I cannot learn that those who live in the vicinity of such institutions are uncommonly vicious, nor have I ever known a man prompted to steal or rob by visiting or passing by a prison. Neither have I known a student to become a heathen, or even heathenish, by studying the classics. I would ask every schemer in education to visit our colleges, and inquire who are the greatest heathens there. I am confident they are not the best classical scholars. I would say to such reformers, as Agricola did to his troops, "Question your own eyes." Who are the idle, the disorderly and vicious, in our literary institutions? Is it they who are most devoted to classical pursuits? No; for they have no time to be dissipated. It is a rare thing to find one who seeks to excel as a classical scholar, dissipated or immoral. The disturbers of college, the corrupters of the young, are generally those who neglect such studies, who have not sufficient elevation of soul to appreciate them, and who find a more congenial employment in reading the corrupting novels and poetry of the age. An extended discussion of this point does not properly belong to my subject, and I leave it. I conclude in the language of Dr. Dana: "If there be a spirit abroad in our land which is corrupting our literature, which would exchange its solid strength for a feeble and meretricious splendour, which regards its surface more than its depth, let us resist it. In an age of too much glitter and ostentation, let us aim at nothing better or higher than solid knowledge, genuine wisdom, unostentatious goodness, and substantial usefulness. In an age of ceaseless revolution, let us remember that to innovate is not always to reform, and that old truth is somewhat preferable to new error."

ON TEACHING AS A PROFESSION.

[*Continued from page* 178.]

But, secondly, I do not think that education can be *complete* without a national system. I shall explain what I mean. Some people hold the Cain doctrine in regard to education. They think that the parents should see to the education of their children, and that nobody has any further concern or interest in the matter. Sometimes they go the length of modifying their doctrine a little, and think that perhaps very poor parents should be assisted in educating their children, and that children who have no parents, or merely nominal parents, should be educated at the public expense. I go a great deal further than this. I maintain that in a community each citizen is bound to feel an interest in all his fellow-citizens, and that all are associated together in a close communion, in consequence of which real good does not come to one without affecting all. For instance, I may not be a proprietor of land, but nevertheless it is a benefit to me that the land should be cultivated to the utmost, and so I have an interest also in the prosperity of our manufactures. If I have thus an interest in our material prosperity, assuredly I ought to have a greater interest in our spiritual prosperity. Now there is continually born into the country a vast amount of spiritual force. Is it not right that every encouragement should be given to the thorough cultivation of this spiritual power? This spiritual power does not belong to one class exclusively. It appears among rich and poor. The primary duty of cultivating this power rests on the parents, but when the parents are unable, and yet willing, unquestionably it is at once the duty and privilege of the community to present the highly gifted student with the means of prosecuting his studies. Now this is impossible without something like a national system in one shape or another. If education is to be left to mere adventure, class schools rise up on every hand, one set for people that can afford so much, another set for people that cannot give so much, and so down through varying shades. The country is divided into infinitesimal factions from its earliest days, and class feels irritated against class, because there is no intercommunion, and no rising from a lower to a higher through education, whatever be the intellectual power of the pupil. The result of such a system must inevitably be a violent outburst of the lower classes, led by men of great but uncultured intellectual power. Happily this is far from being the case in our country. We have in our universities national institutions which are so framed that they are open to all, even the poorest, provided they have talent enough for it. But in our city schools we have gone far from the old Scottish opinion and sentiment. Class schools of every kind have been set up, one set of our people have been systematically trained to look down on another, and hence unnational rivalries and contests. And the one cure for this is, that our schools shall be organised on the same principles as our universities, that they shall be open to all, and fit for all who are fit for them.

And thirdly, it is impossible that teachers can have their proper position, or, in other words, that the best men can be procured for the teaching profession, unless some national system be adopted. In regard to this matter, there prevail in many quarters opinions which are totally repugnant to common sense. A considerable number look on education as an article of trade, and they imagine that it should be left to regulate itself by the laws of free trade. It is amazing that people should ever imagine such a thing as this, for fact and reason alike present the most palpable contradictions to it. If it were an article of trade, how is it that its price varies to such an extent over this country, that in some places you will get an hour of Latin for 2s. 6d., in others for 7s. 6d., in others for sums varying from one pound to ten pounds, and that frequently the hour's Latin for the ten pounds is the worst teaching of the whole. Here surely is a curious fact for political economists, a proof at any rate that the matter does not regulate itself in a very satisfactory manner. But when you look at the nature of education, then the free trade theory appears in tenfold absurdity. First of all, every one knows that it is of the greatest consequence to make an ample supply of education where there is no demand for it, the want of a demand being the surest sign that there is a strong need for it. Secondly the educator feels that he is bound by moral obligation to educate, whenever he has the power, without price. Say, for instance, that a poor boy of uncommon powers is presented to me. Now, in regard to such a boy, I would at once feel it my duty and my privilege to educate him to the utmost, if it were within my power to do so, though he should never pay me a farthing. Thirdly, a teacher has only a certain limited amount of educative power within him, which he cannot delegate to others.

He can teach only a certain number, and only for a certain portion of the day effectively. So that really the teacher has none of the chances of trade. He cannot give his teaching power to assistants. It is the man himself that educates. There is no such thing then as capital in education. Of course some may tell me that men have made first-rate commercial speculations in the teaching line. But I simply answer that, so long as the public wish to deceive themselves, and to act foolishly, men may make a thriving speculation out of anything, whether it be the selling of indulgences, or spirit-rapping, or learning Latin in six lessons. And lastly, there is no possible way of determining the price of education, because it transcends infinitely the value of material wealth. For these and many other reasons, the free trade theory seems to me preposterous and absurd; and I may add that I deem it exceedingly mischievous.

What then is the principle on which a teacher should be paid? In the professions to which I drew your attention, we see two methods adopted. The doctor and lawyer say in fact something like this to the public: "We offer our services to you, to rich and poor alike. It is impossible to attribute an exact money value to these services. But of course we must have a decent livelihood. And, therefore, while we expect little or nothing from the poor, we expect the richer classes to give in proportion to their means." And so for the same services the doctor gets one sum from one and another from another. To a certain extent this principle was applied to teachers. A fee was fixed which most could pay; and to make up for the unfair advantage thus obtained by the rich, a day was appointed on which presents were given to the teachers, according to the wealth of the parents. In the case of ministers, the method is different. They, as it were, say: "We have devoted our lives to the service of God and the good of our fellow-men. In so doing we renounce all prospect of making ourselves rich. But we cannot devote ourselves to the work exclusively, unless you undertake to free us from anxiety about worldly means. We expect therefore that you will consider what income will be sufficient to keep us and ours in comfort. We do not wish the luxuries of life; but we wish to live in good society, with the homes and habits of gentlemen." It seems to me that this is the principle on which teachers also should be paid. If they are to be thorough teachers they must devote their lives to the work, they renounce every prospect of becoming wealthy through their profession, and all they demand is that the community maintain them in a position worthy of the functions which they discharge, and provide for the material wants of them and theirs. The salary in this case is not, properly speaking, the pay for the service done, but the removal of an obstacle which would have prevented the service being done, and the recognition of the value of the service. It is only when teachers are paid in this way that we can expect that the best men will devote their lives to the work of education, and therefore it is only in this way that the educating powers in a country can act with the greatest effect.

And I may notice how the opposite system repels good men, and introduces all kinds of nondescript characters into the work. I shall suppose a case. A B proposes to take up an adventure school. A B is thoroughly fitted for the work of education. But he finds no place for his services in a national scheme, because there is no national scheme. And therefore if he is to teach at all, he must set up an adventure school. So far is he from doing anything wrong, that he is a benefactor to the community. But as soon as he begins to think of his project, the first thing he has to settle is to see how he can make it pay. He has to rent a house. This is an unavoidable expense. Then he must procure other teachers. How is he to pay them? He may have generous ideas; but the first duty is to himself. And he must take care not to offer such a sum as might interfere with his own prospects. He takes the risk, and therefore he should have the profits, if any turn up. And so he offers his vacant situations at £40, £50, or £80 a-year. And who are the men who take these situations at £40 or £80 a-year? Are they teachers? Are they men who belong to the profession of teaching? Are they men who are to give their lives to the work of teaching? In nine out of ten cases they are not. They have never studied the science or art of education. They have no wish to remain in the profession. They are mere birds of passage. They are willing to submit to be ushers for a short time, because the small sum they get will help them through their student course, and land them beyond the tiresome and unpleasant work of teaching. I said that I was imagining a case; but you all know that I am describing actual facts. I knew a remarkably able man who, when a student, got £80 a-year for teaching a class, which paid the headmaster, solely for his instructions, £336. I knew another able teacher who got exactly £70 for what the headmaster got £280. And I knew a young man of great ability who got £40 a-year for five hours of work. Do you think that these men could teach with their heart in their work under such a system? And it is often these irregular and temporary teachers who are the innocent causes of much harm to the profession. They have no desire to learn the art of teaching. They have no inducement. And so they pass on. Now I think you will agree with me that this is a state of matters which ought not to be, that the teaching profession, like other professions, should be so arranged that a young man could look forward to it as his profession for life, that it should be such that there would be inducement for him to prepare himself for it thoroughly, and that the arrangements in regard to it should be such that there would be no openings for the hordes of occasional skirmishers that find their way in and out of it so rapidly. In one word, we should have a national system of education.

I had intended to have said a few words on the hindrances which in this country are likely to stand in the way of a national system, but I have already occupied your time far too long. I hope I have not in any way depreciated the importance of other professions. This is far from my intention, though in seizing hold of one idea strongly, one is apt to lose sight of others. I have also expressed my opinion freely on some points disputed among teachers: but I hope I have done so without giving offence. What we need in those days is full and free discussion of everything connected with education. Education will not suffer from this. The cause of education is a grand and a glorious one. I believe it has a magnificent future in store. I believe that its power is but beginning to be realised. You and I are engaged in this noble work at present; and I think we ought to take courage in the midst of occasional annoyances from the consideration of the power we wield over the young minds. It is a great privilege for us to have the opportunity of exerting this power. Let us summon up all our faculties to produce the highest amount of intellectual and spiritual activity among our pupils, to fashion them men of God, thoroughly equipped for every good work; and whether the world honour or despise us, we shall not have lived in vain; and when we leave this scene of action, the spiritual life which we have propagated will continue to spread wider and wider over the generations of men for all great and good purposes.

RUDIMENTS OF LATIN.

The following lessons are intended for those teachers to whom Latin is entirely unknown. Each lesson, after the first, is intended to indicate a week's work for a person of moderate intelligence and average powers of application. It is not pretended that these lessons are, in either matter or method, original; but it is believed that they will form an easy but effective introduction to the Latin language. Each lesson will consist of—1, a vocabulary; 2, the accidence; 3, examples; and 4, exercises.

LESSON I.

VOCABULARY 1. TO BE COMMITTED TO MEMORY.

Ala, *a wing.*
Ara, *an altar.*
Aqua, *water.*
Barba, *a beard.*
Cura, *care.*
Cera, *wax.*
Columba, *a dove.*
Causa, *a cause.*
Domina, *a lady.*
Faba, *a bean.*
Femina, *a woman.*
Fera, *a wild beast.*
Filia, *a daughter.*
Fortuna, *a fortune.*
Fuga, *flight.*
Gena, *a cheek.*
Gloria, *glory.*
Insula, *an island.*
Luna, *the moon.*
Lupa, *a wolf.*
Mensa, *a table.*
Musa, *a muse.*
Natura, *nature.*
Penna, *a feather.*
Puella, *a girl.*
Porta, *a gate.*
Rosa, *a rose.*
Regina, *a queen.*
Sagitta, *an arrow.*
Via, *a way.*

Alta, *high.*
Alba, *white.*
Angusta, *narrow.*
Amata, *love.*
Bona, *good.*
Clara, *clear.*
Celata, *concealed.*
Cœrulea, *blue.*
Dura, *hard.*
Egregia, *excellent.*
Infima, *lowest.*
Mala, *bad.*
Magna, *great.*
Mira, *wonderful.*
Maxima, *greatest or very great.*
Minima, *least or very little.*
Nigra, *black.*
Optima, *best or very good.*
Ornata, *ornamented.*
Parva, *small.*
Profunda, *deep.*
Pulchra, *beautiful.*
Plena, *full.*
Prima, *first.*
Pessima, *worst or very bad.*
Sanata, *healed.*
Lata, *broad.*
Longa, *long.*
Lutea, *yellow.*
Laudata, *praised.*

ACCIDENCE.

All the foregoing words are of the feminine gender, singular number, and nominative case.

Adjectives and participles agree with their nouns in gender, number, and case; as *bona puella*: not *bonus puella*, *bonus* being the masculine form of the adjective.

The word *est* signifies *is*, *it is*, or (there) *is*. In Latin the expletive *there* has no corresponding word, and pronouns are very generally omitted. For example:—

Rosa est rubra	*The rose is red.*
Rubra est	*It is red.*
Est rosa rubra	*There is a red rose.*

Est is the third person, singular, present, indicative of the verb *esse*, to be.

By altering the termination *a* into *æ*, in any of the words given in the vocabulary, the nominative case is changed into the Genitive which answers to the English Possessive Case : *e. g.*

Femina, *a woman;* Feminæ, *a woman's, or of a woman;* Bona Femina, *a good woman;* Bonæ Feminæ, *a good woman's, or of a good woman.* Filia bonæ feminæ, *the good woman's daughter.*

As a general rule, the order of the words will be the same in Latin as in English.

EXAMPLES.

Domina est pulchra	*The lady is beautiful.*
Mensa est longa	*The table is long.*
Porta est angusta	*The gate is narrow.*
Sagitta est ornata	*The arrow is ornamented.*
Barba est nigra	*The beard is black.*
Aqua clara	*Clear water.*
Ala columbæ	*A dove's wing, or the wing of a dove.*
Alba ala parvæ columbæ	*The white wing of the little dove.*

There is neither definite nor indefinite article in Latin, so that *magna cura bonæ dominæ* may mean—

The great care of *the* good lady.
The great care of *a* good lady.
A great care of *the* good lady.
A great care of *a* good lady.

EXERCISES.

1. Write out the genitive case of each of the words in the vocabulary.
2. Construct twenty phrases on the model *dura cera*, hard wax.
3. Construct twenty phrases on the model *pessima fortuna*, the worst fortune.
4. Construct twenty phrases on the model *natura mira est*, it is a wonderful nature.
5. Give the English for—
   Clara est aqua. Parva est puella. Mensa est lata. Est bona domina. Ala est alba. Barba est nigra. Faba maxima est. Cera optima est. Causa pessima est. Filia reginæ. Filia bonæ reginæ. Filia bonæ reginæ est. Filia pulchra bonæ reginæ est. Filia bonæ reginæ pulchra est. Lupa nigra celata est. Lupa est fera. Insula est minima. Gena filiæ pulchræ reginæ egregiæ est rubra. Profunda aqua clara est. Laudata est domina.
6. Give the Latin for—
   The rose is red. The lady is beautiful. Glory is concealed. Eva is the first woman. The first feather is black. The dove's first feather is white. Yellow wax is the best. The queen's daughter is very good. The lady is healed. The blue water is clear. The altar is broad. The queen is an excellent woman. It is a great anxiety (care). The island is great. The great island is long. The little island is narrow. The good lady's beautiful daughter is healed. The excellent lady's white dove is hidden. There is a black wolf. There is the black woman's little daughter.

LOCAL EDUCATIONAL INTELLIGENCE.

SUPERANNUATION MOVEMENT.

A large meeting of teachers connected with the Council of Education was held on Saturday, June 6th, at the Model School, Fort-street, Sydney, for the purpose of devising a scheme for the superannuation of teachers. W. Wilkins, Esq., Secretary to the Council of Education, was called to the chair.

Mr. **Bradley** briefly explained the object of the meeting. Up to the present time, little had been attempted, and still less done. Every one seemed to have been waiting for another. Recent sad events had had the effect of arousing attention to the necessity of a superannuation fund. A preliminary meeting was held on Thursday last, when a committee was appointed to draw up resolutions for a public meeting. These resolutions would now be laid before them.

Mr. **Johnson** (Inspector) then moved—

> "That in the opinion of this meeting it is desirable that a superannuation fund for teachers and officers under the Council of Education be established"

In moving this resolution, Mr. Johnson said it was well known to the teachers generally that there was absolutely no provision whatever made for their old age; that the teacher who began life in that capacity, and spent the best part of his life in working for the public good, was not remunerated in such a way that he could afford to lay by, to provide for the evening of his days; and that it must be anything but a consoling matter for a teacher to reflect that, when he was unable to proceed further in his arduous labours, he had nothing to look forward to. Some might think that an insurance society afforded the best means of providing for this evil, but it must be evident that a superannuation fund would be far more advantageous, because it would not only provide for a teacher's family in case of his death, but make provision for him when he was, though living, no longer able to work. As teachers we might assert a claim to that benefit; we might go to the Government and say "We consider the position and duties of a teacher as certainly of not less importance than those of an ordinary Government clerk, and as the Government has made provision for officers of that character we may expect them to do the same for us." In doing so the Government would, no doubt, exert a wise economy, for many teachers were now dragging along in positions for which they were physically unfit—doing their best, no doubt, but still doing their work very feebly—simply because they had no other means of support. With such a fund as that proposed, they would be enabled to retire, and thus both teachers and the education of the country be benefited. This subject had been discussed before, and the late National Board and Mr. Wilkins had endeavoured to raise such a fund but without success. He hoped the teachers would seize the present opportunity and endeavour to get what they all must desire.

Mr. C. **Fisher** seconded the resolution, expressing his concurrence in the opinions of the previous speaker, and urging upon the teachers the expediency of co-operation in seeking to attain their object. The matter was of the greatest importance to all of us, for it was a fact that a man who spent the best years of his life in teaching became incapacitated for other employments. His intercourse with immature and unformed minds unfitted him for future intercourse with persons of strong character: and after passing the greater part of his existence in teaching, he would find it a hard matter to adopt any other position in life. It was highly desirable that a teacher should have before him the hope of being able to rest on his oars, and pass the latter years of his life in peace, and secured from want. A superannuation fund was the only means by which a teacher could be provided for efficiently.

The **Chairman** then invited any who desired to address the meeting to express his views on the resolution under discussion.

Mr. **Dunlop** said he had been a teacher for twenty-two years, and had naturally a strong objection to pensions and superannuations. Such things begot laziness and incapacity, and though he needed it most, he felt at the present moment he could not support a superannuation fund. It would tend to lower the position of the teacher among his neighbours who would sneer at him as a pensioner. He thought the value of a pension should be given in a lump sum to the teacher on his retiring from the duties of his profession, so that his family might be in a position to engage in some business, and not be left destitute in the event of his early death after superannuation. The superannuation fund might become a source of bondage. The teaching profession was most precarious. An inspector could not measure the skill of a man who formed a child's mind. A teacher might forfeit, through such a mistaken estimate of his work, the whole pension after contributing to the fund. He had been twenty-two years a teacher, he had a large family, and he had not saved a shilling, but he had such a view of the emasculating and pauperising influences of pensions that he could not support the formation of the fund. If he had to go to a poorhouse to end his days he would gladly go.

Mr. J. J. **Clark**, as a grey headed teacher, cordially endorsed all that Mr. Johnson had said. He was surprised at his friend Mr. Dunlop, who should be the first to support this movement. He thought it was a fine thing. He believed that if the scheme proved successful, Mr. Dunlop would be one of the first to cry "Hurrah!" Another teacher objected that teachers should not have such a boon more than bricklayers and carpenters. He would not hear such bosh. Persons in business were not the servants of the Government. They had all the advantages and chances of trade, by which they had every facility for acquiring, if not wealth, at least a competency for their own support and that of their families. They were all now united as public teachers. Let them combine for their common good. As a body, there were no men who worked harder, and were worse paid, on an average, than teachers. (Hear, hear.) Government clerks, who did not work nearly so much, had something to look forward to in old age; but many a time when he (Mr. Clarke) was going home wearily after his day's work, he had said to himself "What is all this to end in?" At the present time he was not worth a five-pound note, although he neither smoked nor drank. He did not grumble. Things were changed under the new system; but they might be better. It was impossible for a public teacher to lay by, out of his salary or fees, a provision for his old age. If Government clerks, with their easy work and salaries of £400 a-year were entitled to superannuation allowance, the teachers who had a most important work to do, had a claim. He had worked seventeen years in the work of teaching, and he believed the Council of Education would get ten years more out of him; and after twenty-seven years, educating some thousands of children, was he to be turned out like an old horse, to die in the fields? (Cheers, and No.) Let the Council come forward and do them a good turn, and they would work all the better for it.

Mr. Murray approved of the object; but he would like to know how it was to be effected.

The resolution was carried nem. con.

Mr. **Bradley** moved the second resolution—

"That a memorial be addressed to the Council of Education praying that the Council will take the steps necessary to establish such a fund."

The inference to be drawn from the resolution was, he said, in the first place, that the teachers were powerless to effect of themselves their object; and next, that the amount of support the Council would give would depend entirely upon the unanimity displayed by the teachers. He recommended them to join in obtaining what the large majority at any rate desired, and expressed his belief that the Council would be willing to meet them more than half way in any good measure they might devise.

Mr. **Bridges** seconded the resolution. He did not feel that the superannuation fund would ever become a yoke of bondage. Even if the teacher left the service, after paying to the fund, he did lose something, it would nevertheless be desirable to have a superannuation fund. This scheme would force economy on the teachers. That would be a great benefit to them. He believed the Council of Education were true friends of the teachers, and members of Parliament would assist them.

The resolution was carried unanimously.

Mr. **Forbes** (Inspector) said he had long thought there was an urgent necessity for the establishment of a superannuation fund. Teachers discharged a most important duty in the State, and were generally in the receipt of slender emolument. He moved the third resolution—

"That a committee be appointed, consisting of the undermentioned gentlemen, for these three objects: first, to prepare the memorial; secondly, to communicate with the teachers in the country; thirdly, to collect such information as may be found necessary. The names are—Messrs. W. Wilkins. Bradley, Bridges, Dobbie, Fisher, Fowles, Lyons, Madley, Rutledge, and the the Inspectors under the Council, ex officio."

Mr. **Flannery** (Inspector) seconded the resolution. He thanked Mr. Dunlop for having raised the objection to the superannuation fund. This showed that it was not merely a cut and dried meeting. Mr. Dunlop's own speech eloquently proved the necessity of such a fund. The time was come for teachers to assert their position in the community. The teacher was a most important servant of the State. And while masons and carpenters could any day leave their work and enter into trade, it was not so with the teacher. The teacher was bound to the service of the State, and could not leave his duties for a day. They were fairly entitled to this advantage. Mr. Dunlop said it was all moonshine; but he thought they would all like to see the "first quarter." (Cheers and laughter.)

Mr. RUTLEDGE proposed that the name of Mr. J. J. Clark be inserted in the resolution. He fully concurred in the remarks of Mr. Flannery. He entered the teaching profession in 1840, when he had the prospect that those who continued in the service would have a pension from the State. There was an example of this in the case of Mr. Ayres, of Parramatta. They were entitled to the same advantage as other public servants. As to the fear of bondage, he regarded it as a mere illusion. He had heard it stated in the Legislative Assembly that an interest in a superannuation fund strengthened the position of a servant of the State, protecting him against being capriciously deprived of his situation; a step which he was sure would not be taken, especially when it involved a confiscation of his money, unless the interests of the country demanded it.

The mover and seconder of the resolution consented to the insertion of Mr. Clark's name, which was inserted accordingly.

Mr. GREEN thought the course proposed was the best thing they could do. He had spent eleven years, the best part of his life, in the work of public teaching.

The resolution was then put and carried unanimously.

The CHAIRMAN said another meeting would be held when the committee had prepared the memorial, and submit it to the consideration of the teachers.

TEACHERS' SUPERANNUATION FUND.

A meeting of teachers under the Council of Education was again convened in the Boys' Room of the Fort-street Model School, on forenoon of Saturday 20th June for the purpose of considering the memorial prepared for transmission to the Council of Education. There was a very large attendance of teachers, and the chair was occupied by Edwin Johnson, Esq., one of the Inspectors. The chairman initiated the business of the meeting by reading the following memorial:—

> "To the Honorable the President and Members of the Council of Education. The Memorial of the undersigned officers and teachers under the Council of Education humbly sheweth: 1. That your memorialists, although not appointed to their respective offices by the Governor, with the advice of the Executive Council, are nevertheless as fully and directly servants of the public as the members of the Civil Service; and that the services rendered by your memorialists are at least as important and valuable as those performed by any other body of public servants: and that the examinations to which your memorialists are subjected, form severer tests of competency than are required in any other branch of the public service. 2. That the remuneration awarded to teachers is insufficient to enable them to provide for old age, especially after deductions have been made from their slender incomes to meet demands arising out of sickness, and the provision required for their families after their own death. 3. That your memorialists are prohibited by the regulations (Article 54, Section II) from engaging in any enterprise or business which would enable them to add to their emoluments; and that even if this prohibition did not exist, the engrossing nature of their duties would itself suffice to prevent them adopting such course. 4. That it is desirable that teachers should be secured against the possibility of want in old age, so that, being free from anxious cares about the future, they may be at liberty to devote their whole energies to their work. 5. That it is desirable, even for the cause of education, that teachers who have grown old and feeble in the service, should retire, so that younger and more energetic men might carry on the work of instruction. 6. That under existing circumstances, teachers, even although infirmity and age suggest that they might with advantage to the cause of education be superannuated, are compelled to remain in their schools, because they cannot afford to give up their living. 7. That superannuation would serve as a bond of union among teachers; and by giving them a vested interest in their profession, would act as an incentive to well qualified men to enter and to remain in the Council's service. Your memorialists therefore pray that, having taken the premises into consideration, you will be pleased to establish a Superannuation Fund for their benefit. And your memorialists, as in duty bound, will ever pray."

A resolution was then moved by Mr. Bardsley, and seconded by Mr. Finigan, to the effect that the memorial be adopted. This was carried unanimously without discussion, and about 250 of the teachers there and then affixed their signatures to the document. The committee appointed at the meeting held on the 6th instant, to take the management of the affair, have prepared circulars for transmission to the country teachers. These circulars enclose printed forms, which, when filled up and returned to the secretary, will authorise him to affix the name of the teacher so filling them up to the petition. The circular states the resolutions arrived at by the meeting of the 6th, gives directions as to the filling up of the forms, and requests a subscription, in postage stamps, not exceeding one shilling, from each teacher towards defraying necessary expenses.

THE LATE MR. ROSE.

After the business connected with the meeting held on the 6th, for the purpose of taking steps towards initiating the superannuation movement, the Chairman, W. Wilkins, Esq., said this was all the business before them.

Mr. FOWLES then proposed—

> "That this meeting desires to express its sympathy with the widow and family of the late Mr. William Rose, cashier of the Council of Education, in her present deep affliction."

He expressed warmly his grateful esteem of the character of Mr. Rose. They had all experienced his courteous and kind attention to their interests.

MR. DUNLOP seconded the resolution. The announcement of the death of Mr. Rose made him shed tears.

Mr. Keily, Mr. Bradley, Mr. Salier, Mr. Thomson, Mr. Bridges, Mr. Rutledge, Mr. Clark, Mr. Ryan, and the chairman expressed their esteem for Mr. Rose, and regret for his decease.

Mr. HARDY said they ought to do as they would have others do to them. Let there be something more than mere sympathy.

The resolution was carried unanimously.

Mr. BRADLEY moved the appointment of a committee (Messrs. Fowles, Bradley, Madley, Murray, and Johnson, with others) to collect subscriptions for Mr. Rose's family, and to consult as to the best mode of disposing of the fund. He said there were a thousand teachers in the service. It would be easy for them to raise £900 for such an object. He himself would give five guineas as his subscription.

Mr. JOHNSON seconded the resolution. He was sorry to say five of Mr. Rose's children were stricken down by the disease which had carried him off. He would give five guineas.

Mr. MURRAY said until lately Mr. Rose had been in receipt of but a small salary. If his life had been spared, in a month or two he would have taken out an insurance. He (Mr. Murray) would give two guineas.

Mr. FLANNERY said that if this movement was properly taken up here, he did not doubt that the scheme shadowed out by Mr. Bradley would be realised. Country teachers would be influenced by what the Sydney teachers did. He would give five guineas.

Mr. BRIDGES promised a similar amount.

The resolution was carried unanimously. About £50 was subscribed in the room at once.

TEACHERS' ASSOCIATIONS.

We are happy to find that teachers in various parts of the colony are taking measures whereby their own improvement and usefulness may be materially promoted. The union which now exists among teachers—occasioned principally by the whole being placed under the same controlling authority, which requires the same services from, and awards the same remuneration to, all in proportion to the services they are found to render to the public in accordance with one common standard—has greatly increased the facilities for the promotion of such means of usefulness as Teachers' Associations. The action of the teachers of the Bathurst district, with Mr. Chandler as their secretary, has been followed by the teachers in other districts. While speaking of Bathurst, we may add that we are given to understand that the formation of a library is one of the objects of the association. On Saturday, May 23rd, a meeting of teachers was held in the Public Schoolroom, Grafton, when Mr. Matthews occupied the chair. It was decided that a society should be formed, to be called the "Clarence River Teachers' Association;" that all teachers in the service of the Council of Education should be eligible for membership on payment of the sum of five shillings half-yearly, in advance; that the meetings should be held in the Public School, Grafton, on the last Saturday of every month; and the annual meeting in the midwinter vacations. The following teachers were elected as officers for the current year:—Mr. W. Matthews, President; Mr. H. B. M'Intosh, Vice-President; Mr. Stokes, Treasurer and Secretary; and Messrs. Walsh, Stewart, M'Intyre, and Baillie the Committee. After deciding on a course of studies for the next monthly meeting, the meeting adjourned.

We hail with great pleasure the formation of such associations. We cannot say how many of such there may be already in actual operation in the colony, but we do know that if teachers heartily co-operate with each other, avoiding those little weaknesses to which teachers are said to be prone, and treat each other with mutual respect and confidence, each esteeming the other as possessing, at least, some qualities superior to his own, they will greatly assist one another in their labours of self-improvement, and further their advancement in the road of greater public usefulness.

INTELLIGENCE.

VICTORIA.—REPORT OF THE ROYAL COMMISSION APPOINTED TO ENQUIRE INTO AND REPORT UPON THE OPERATION OF THE SYSTEM OF PUBLIC EDUCATION.—*(Continued from page 180.)*

Nature and Quality of Public Elementary Education.

III.—*Machinery of Public Elementary Education.*

1.—THE GOVERNING BODY AND OFFICERS.

The system of public instruction is administered, in accordance with the provisions of the Common Schools Act, by an unpaid Board, consisting of five members. A strong feeling of dissatisfaction has been expressed and many complaints have been made against the Board of Education. The Commission deemed it inexpedient to receive any evidence respecting these causes of complaint, but express the opinion that a just judgment cannot be formed of the proceedings of the Board unless the difficulties which its members had to encounter—arising from a sudden attempted amalgamation, under their management, of two different and conflicting systems, as well as from the peculiarity of their own position as the unpaid managers of an extensive and intricate machinery—be borne in mind.

The Commission, however, concur with the all but unanimous testimony that the system of management of public instruction should be immediately changed; and agree with the view expressed by the large majority of witnesses that public instruction should be placed under the control of a Minister of the Crown responsible to Parliament. Some fear that a Minister, if not guided or checked by a council or board of advice, would have excessive powers, and would be exposed to suspicions of undue influence by some of the denominations. But the alterations proposed by the Commission would have the effect of greatly reducing the influence of the denominations, and would deprive them of every motive for attempts at improper influence, whilst in other respects the powers of the Minister of Instruction, although necessarily large, would not be so great as those of Ministers at the head of some other departments of the Government. The endeavour to prevent an apprehended abuse of power by crippling its exercise would in this case probably defeat itself; a division of power would only prove to be a division of and consequently a diminution of responsibility; and the complete and at the same time open and legitimate control over this department of Government can only be exercised by the representatives of the people dealing with a Minister of the Crown. It should be remembered that the difficulties of a Minister occupying such a position would at the outset be very great. He would be called upon to encounter the oppositions of the denominations, to adjust the rival claims of competing localities, and to train the teachers of public schools in habits of discipline and obedience to the rules of an organised service. If Parliament should not be prepared to confide such large powers to a Minister of Instruction, or should refuse to extend a liberal confidence to the person who may at any time occupy that responsible position, such beneficial results to public education from the change which the weight of evidence justifies should not be anticipated.

The Inspection of Schools, in connexion with the Board of Education, is now performed by an Inspector-General and eight inspectors. The Commission think that this number is inadequate for the just and efficient administration of the scheme of examination under standards and payment by results. It is a still more unsatisfactory feature of the existing system that the inspectors are not required to pass any special examination, and do not receive any regular training for their duties, and that they are not placed under the control of a professional head under the Board. For reasons, the force of which cannot be seen, the Board of Education has placed all the inspectors on a footing of equality, and has exempted them from that professional superintendence and control which it was the plainly expressed intention of the Act to provide. The inspection of schools is a strictly professional function, and demands even higher training than the professional function of the teacher. An inspector ought to possess, in addition to special qualifications, the qualifications of a practical teacher; and for this reason, as well as with the view of opening to teachers a legitimate field of promotion, it is hoped that a proportion at least of such appointments may in future be made from amongst teachers of the highest classification. The Commission recommend that the inspecting staff be increased, that the practice of convening the inspectors in periodical conferences be continued; that greater care be bestowed upon the discipline and training of the inspectors; that a higher remuneration than the present rate be given for more highly-qualified inspecting services; and that professional authority and superintendence over this professional branch of the department be immediately established.

2.—LOCAL COMMITTEES.

The Common Schools Act provides that schools receiving aid from the consolidated revenue must be under the management of local committees approved by the Board of Education. The modes in which members of local committees are nominated vary in schools of different kinds. The constitution and powers of these bodies are a subject of which the importance cannot be over-estimated. If denominationalism is to be eliminated from the educational system it can only be through the co-operative assistance rendered to the central authority by the intelligence, liberality, and unrewarded efforts of the friends of education in all parts of the country. From the clergy of the great majority of the denominations in each locality may be expected, if the evidence received be reliable, not only the most active and efficient support to the school generally, but also a common desire to sink sectarian differences in the attempt to impart a religious tone and character to the teaching of the school. On the other hand the laity, and especially the parents of the children attending the school, must be regarded as having the deepest interest in excluding every approach to sectarianism, and in rendering the school as efficient as possible. In order to secure and retain the local co-operation of the clergy and laity, considerable powers and a large discretion should be conceded to local committees in the general management of the schools, together with the power of determining upon a common scheme of religious training or instruction: while at the same time a right of final decision and control must of necessity be lodged in a central authority. The highly useful services which a local committee might be expected to render would include the selection of the certificated teachers, and the appointment of a teacher and assistant teachers and pupil teachers for the school, subject to the approval of the Minister of Public Instruction; the periodical visitation of the school; the enforcement of compliance by the teacher with all regulations; attention to all necessary repairs, to the preservation by the teacher of all school property, and to the economical expenditure of sums allowed for repairs or the purchase of apparatus; the entry from time to time, in a book, for the information of the inspector, of observations upon the organization and discipline of the school, or upon the method of teaching practised by the teacher; and the sending of periodical reports respecting the state of the school to the Minister of Public Instruction.

3.—Teachers, Assistant Teachers, and Pupil Teachers.

The total number of teachers, male and female, employed in schools receiving aid from the Board of Education, was, in December, 1866, 771; the number of assistant teachers, male and female, was 507; and the number of pupil teachers 222. The average salary of head teachers from all sources was estimated to be, in Melbourne, £275; in suburban municipalities, £240; on the gold-fields, £218 10s.; and in country districts, £185. The average salary of assistants was estimated at £113 in Melbourne; in suburban municipalities, £100 5s. 1d.; on the gold-fields, £97 10s.; and in country districts, £88. One-third of the salary of pupil teachers is paid by the locality, that is to say, in a great majority of cases, out of the school fees. The remuneration of teachers varies greatly in different schools. In town and suburban schools it is swelled in many cases by the fees and payments for results to an undue amount: while in some of the country schools, through the operation of the regulation previously referred to, and owing to the small number of pupils, and in some cases to irregular payments, the salary of the teacher is inadequate in amount. The Commission recommend, not a reduction, but a readjustment of the present rates of salary to teachers and assistants in public schools.

The staff allowed by the regulations to a common school in Victoria, embracing the head teacher, assistant, and pupil teachers, is excessive in comparison with that allowed in other countries. The Commission recommend a modification of the existing regulation upon this subject, by which one pupil teacher would be allowed when the average attendance for one quarter should exceed fifty pupils; an assistant instead of a pupil teacher when it exceeded seventy-five; and for every additional twenty-five pupils in average attendance a pupil teacher, or for every fifty an assistant; provided that there should be one assistant master for every hundred children in average attendance.

The Commission regret to be compelled to express the opinion that a large number of the teachers now employed in the common schools fall far short in attainments and general qualifications of the standard which the high character of their functions and the liberal remuneration they receive would justify the State in demanding. No fewer than 449 of the teachers are not classified at all.

The Commission recommend that teachers and assistant teachers of the public schools shall henceforth form a distinct class in the public service, but outside of the operation of the Civil Service Act; that they be admitted into this class after a strict examination, and upon receiving a certificate of competency; that so long as they remain in the service they shall be subject to the control, in accordance with general regulations, of the Minister of Public Instruction; and that after a certain period of service in the actual discharge of duties in connexion with one or more public schools, they shall become entitled to an augmentation of salary and to a retiring allowance. Provision should be made by regulations for the admission to an equivalent status on reasonable and just conditions of those teachers who already hold certificates from the Board of Education, and also of teachers who may bring from the mother-country properly authenticated certificates of character and competency. The teacher should be entitled to receive his salary from the State so long as he may be actually employed in the discharge of the duties of teacher at any public school; and he shall not be compelled, as he now is, to contract with an unendowed body like a local committee without funds of their own to satisfy his claim, and constrained to protect themselves by terms in the agreement which virtually deprive the teacher of all redress. If a teacher be fit for his position he is entitled to high consideration from the local managers of the school, and his recommendations and suggestions respecting the selection of assistant and pupil teachers, and all other matters respecting the well-being of the school, should command the respectful attention of the committee. In return for the advantages which it is proposed to confer upon the teachers of public schools they must be prepared to submit to a system involving strict training, discipline, and control.

4.—TRAINING SCHOOL.

For many years past the want of a general training school for teachers has been one of the greatest defects of the educational system of this colony. A training school has been in existence since the year 1859 connected with the Church of England, but though no sectarian teaching appears to be given in the school, it has failed, chiefly in consequence of its connexion with one of the denominations. The Commission recommend that immediate steps be taken to establish a general training school, on the basis of the plan proposed by the Inspector-General of Schools.

5.—SCHOOL LANDS AND BUILDINGS.

Of the 791 schools on the roll and receiving aid from the Board of Education at the close of the year 1866, 219 were schools vested in the Board. Of these 102 schools had been previously vested in the National Board; the remainder have been established by the Board of Education. The number of our non-vested schools is 572; of these 388 are held in trust for educational purposes in connection with particular denominations, the majority, or 233, being vested in trustees appointed by, and holding the land from the Crown; while 155 have been appointed by private grantors. The rest of the non-vested schools, 184 in number, are merely private establishments, which have succeeded in obtaining annual grants of money from the State by attaching themselves nominally to some one or other of the religious denominations. A common and a very significant proof, both of the enormous power hitherto exercised by the various religious bodies, and also of the serious administrative abuses to which the secret exercise of this power has led, is to be found in the fact that so considerable a number of private educational enterprises should have succeeded in drawing large grants annually from the State, while the great body of private establishments engaged in the same pursuit, and fulfilling in an equal degree a useful purpose, have never been recognised as possessing any claim to assistance from the State. The subjects of school-architecture, school-fittings and apparatus, and teacher's residence, deserve to be attentively considered by the Department of Public Instruction prior to any extension of the number of public schools. The efficiency of school instruction, no less than considerations of health and economy, require that a uniform system in these respects should be adopted.

6.—COST AND REVENUES OF PUBLIC INSTRUCTION.

The total disbursements of the Board of Education during the year 1865 were £155,609 11s. 4d. Of this sum £10,144 2s. 5d. were applied to the expenses of the department; £125,905 3s. 9d. to the payment of the salaries of teachers and assistants, including £20,913 9s. 1d. paid for results, and £8718 10s. 3d. to the repair and erection of vested buildings. £125,000 were voted by Parliament for the educational service for the same year, and £9196 8s. 5d. were received from other sources, including £5487 19s. 9d from local contributions. The total amount expended by the State in education under the Common Schools Act during the year 1865, represents a sum of £2 7s. 11d. for each child on the roll receiving instruction during that period. In Great Britain the amount paid by the State for the education of each child is stated to be 7s. 7d. per annum. If liberality in the matter of public instruction equal in degree to that of Victoria were exercised by the people of Great Britain, the amount of the yearly Parliamentary grant would be £6,789,959 instead of £750,000 which is about the amount of the present grant. When it is remembered, however, that the number of children within the age of instruction, who are receiving instruction in the common schools, is smaller in proportion to the population of Victoria than in Great Britain, the wise and far-sighted liberality of the Victorian Legislature in the promotion of education is in danger of becoming a gigantic example of reckless and wasteful prodigality.

AN INCH OF RAIN.—We often hear the question asked—What is an inch of rain? A late weekly return of the Registrar-General of England gives the following solution combined with other information with regard to rainfall, which will be interesting at the present moment:—An English acre consists of 6,272,640 square inches, and an inch deep of rain on an acre yields 6,272,640 cubic inches of rain, which at 277·274 cubic inches to the gallon makes 22,622·5 gallons; and as a gallon of distilled water weighs ten pounds, the rainfall on an acre is 225,225 pounds avoirdupois; but 2240 pounds are a ton, and consequently an inch deep of rain weighs 100·993 tons, or nearly 101 tons per acre. For every 100th of an inch, a ton of water falls per acre.

ORIGINAL CORRESPONDENCE.

(Writers of all communications intended for publication in this Journal must furnish us with their names, not necessarily for publication, but as a guarantee for good faith and correctness. The Conductors of the Journal are not responsible for opinions expressed by correspondents.)

TEACHERS' BENEFIT SOCIETIES AND SUPERANNUATION.

To the Editor of the Australian Journal of Education.

SIR,—In my communication of last month, I think I have shown that no advantages will be gained by the establishment of Teachers' Benefit Societies, other than at present are available; but, on the contrary, such a society would have many drawbacks. I will now indicate very briefly the advantages that would accrue to teachers from a system of Superannuation.

The system which I advocate would be that now in force, or one similar to it, viz., a reduction of say 4 per cent. per annum from salary, which would go to form a fund, to be supplemented by a sum to be voted by the Parliament. Teachers of all classes, under the Council of Education, to receive benefit, on the same scale as the employés of the Government at present receive it; or to amend the present Superannuation Act, so as to bring Teachers within its operation.

The advantages to be derived from such a course would, in my opinion, be as follows:—

1. All teachers would be paying towards it, because the advantage of participating in the Government grant would be an inducement, even to those who may have already made provision for those dependent upon them. It would thus have the advantage over benefit societies, the members of which would most likely, consist of those who could least afford to keep up the society.

2. It would be the means of elevating the teaching profession, and consequently on securing more efficient teachers. In all contracts sureties are required for the faithful performance of the work; and besides a certain per centage is retained until the work is properly executed. Now a teacher is a person who engages to do a certain kind of work for a given remuneration; the deduction from salary would therefore be like the "retained money" of a contract, and the money voted by Parliament would be like a bonus for work well done. Would not then teachers exert themselves to do their work well, that at the end they might receive their reward? Whereas if it be badly done—they being dismissed—will lose the bonus for good work. The deduction, being a per centage from salary, would also act as an inducement to teachers to gain a high classification, because not only their present salary is affected by it, but also the retiring allowance. It would also act as a means of keeping out, or at least be a kind of fine imposed on those teachers who enter the profession simply to earn a livelihood until something better turns up. Some such there are. Besides, the knowledge that old age would be provided for, might be the means of drawing some worthy men who at present stand aloof, because they cannot see how, with a low salary and badly paid fees, they can manage to "lay up a penny for a rainy day." And further, the knowledge that he may, in a moment, by his own act, forfeit all claim to the reward of years of toil, would cause many a one to walk circumspectly before his fellow-men. Besides, it would be no unfair play—as some might suppose, as it might be made optional with teachers at present under the Council, and a matter of agreement with those who may enter hereafter.

3. It is only giving the teacher justice. It may be admitted as proved that, during the period of manhood, every man ought to earn as much as will support, 1, himself; 2, his family; and 3, lay up much as as will support himself in old age, when he can no longer labour. Now I think that all teachers will endorse what I am about to say, *that it is not possible for country teachers, as a rule, with the present depressed state of the country, and the consequent non-payment of fees, to provide for their old age.* If proof be wanted—with the knowledge that what is the case with two families to-day may be the case with mine to-morrow—I point to the appeals made in last number of your journal. If such things happen to-day, they will hereafter; and when such takes place with those who have ascended to, what I may be excused for calling, the middle of the teacher's ladder, what must be the case with those who are still at the bottom? Professional and business men have

a chance to make such provision, from the wider sphere of their operation; but many a teacher is appointed to a country school where, though he be a genius, he has his twenty or thirty scholars, half of whose parents do not pay fees; so that, at least for a time, he is bound down, as it were, to the existing order of things. Perhaps it is well for the colony that it should be so—that teachers should undergo a probation in unimportant schools, and those who are not able should not be forced to pay fees—but if the country reap the advantage, should not the country assist to make the provision which, for its sake, the teacher is obliged to forego? The Legislature, in its wisdom, has decreed that the remuneration of teachers shall consist of salary and fees; but at the same time it has ordained *that the teacher cannot enforce these fees without the sanction of a third party;* and the spirit of the Act seems to be, that those who cannot pay—I may almost say will not—shall not be excluded from school on that account. Would it not be an act of common justice to the teacher to grant something in lieu of those fees which he is obliged to forego; but which are nevertheless as much his property as his salary? All the employés of the Government have the advantage of the Superannuation Fund. In common fairness teachers should have the same advantage. It will be conceded that the requirements of a teacher, both mental and moral, should at least be equal to those of a post-office or telegraph clerk; so should the remuneration and benefits. I am aware that the Act, as it at present stands, excludes teachers; but our laws are not like those of the Medes and Persians—unalterable. The Legislature made, and it can amend.

4. From a copy of the "Insurance Journal," just to hand, I see that on an average as many as thirty benefit societies, insurance offices, &c., fail to meet their engagements—or, to use the words of the writer, "go to the wall"—in England every year. Besides, the management of a benefit society would require to be paid for. Experience teaches that gratis management is generally the dearest in the end. If managed by the Government, greater security would be attained, and the same machinery, with perhaps a little addition, would do.

It may be argued that some teachers cannot spare even 4 per cent. from their small income. I think there are very few who could not strain a point to save so small a sum, when the advantages to be gained are so great. Many who think that they cannot, would be surprised if they only tried. This last proposition by no means invalidates what I said at the outset—that teachers, as a rule, cannot provide for old age—as here they only furnish part of the means, part being given as a bonus, which is in itself a strong inducement. Some few could not perhaps spare any from their income. These are the exception, and are very much like the unfortunate writing clerk, whose name I noticed in the insolvent list, some time ago, in the "Melbourne Argus," who assigned as the cause of his insolvency—"Sickness and want of employment, and that when in employment his salary was not sufficient to pay for lodgings." If any such exist, a society might be formed to pay the per centage for them. I for one would willingly give my mite, and doubtless many more as well, if the cause was not extravagance or improvidence. Such facts would also elicit and prove that some salaries were too small, and as a matter of justice ought to be raised.

Now if it will conduce to raise the position of the teacher—to be only a matter of common justice—to be a means of security and a saving of expense—let each and every one do what he can. If we succeed, we are the gainers; if we do not, we will be at least wiser, but not in a worse position than when we started. Let us adopt the motto—"Union is strength," and moving forward in a phalanx, ask in a respectful yet firm manner, what we conceive to be justice; and I have no doubt but that we will succeed.

At starting I intended only to point out the advantages of superannuation. I have, however, digressed, and taken in the justice of the matter as well, and as a necessary consequence, that it is not lowering the position of the teacher, any more than that of the judge, to receive wages for his services.

Hoping you will overlook the digression, as I may not again address you on this subject—as those abler than I will no doubt take it in hand,—

I am, Sir, yours respectfully, C. Park.

[There is no such contract as that which our correspondent supposes, either expressed or understood. The teacher continues at his work so long as it is satisfactorily performed, and is paid for it accordingly. But should he cease to render faithful services, the most equitable way would be to send him about his business, and return him the money he had actually contributed towards the Superannuation Fund during the time his work gave satisfaction; but retain the gratuity with which it was intended to supplement his savings had he continued faithful to the end.—EDS.]

To the Editor of the Australian Journal of Education.

SIR,—Having read with interest the articles and letters which have appeared in your journal on Superannuation and Teachers' Societies, I will, with your kind permission, make a few remarks thereon. In the first place, I do not think that the teachers under the Council possess sufficient capital to form a society in which all teachers could place confidence. A society could not be formed or carried on without considerable outlay and capital; and where are teachers that can supply this. Echo answers: Where? It is all very well for teachers in receipt of two or three hundred pounds per annum to talk of forming societies. Place them in the position we occupy—joyful possessors of some sixty or seventy pounds yearly salary, and four shillings and sixpence or five shillings per week school fees—they would then talk differently.

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Let the Legislature amend the Superannuation Act, so that teachers shall come under its provisions, for they certainly deserve to share its privileges,

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At present the majority of teachers have not the means either to lay by anything, or to contribute to a benefit society; but give them a proper salary, and they will be able to do both. Till then it is useless to expect success in forming a teachers' benefit society. Give us good schools, plenty of apparatus, and a reasonable return for our labours, with the certainty that when we have spent our energy and lives in raising our fellow-creatures from ignorance and misery to knowledge and happiness we shall not suffer want. Give us this, and we will go to our work with a vigour which the most enthusiastic cannot now feel while oppressed with fears for the future.

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I am, Sir, yours respectfully,
Tirranna. ALBERT LANSDOWN.

MUTUAL ANNUAL INSURANCE.

To the Editor of the Australian Journal of Education.

SIR,—I am desirous of eliciting, through your columns, the opinion of the teachers respecting a scheme of mutual insurance, to be in operation only from year to year, just as the parties desired to renew such a compact or not, and to be irrespective of sex, health, or age. My plan is simply this. Suppose out of the thousand teachers said to be employed under the Council of Education, 500 enter into an engagement to pay five shillings each on the death during the year of any teacher who had contributed this sum, this sum would amount to £125 to be paid (minus the expenses which might be trifling) to the widow or representative of the deceased. Should a second teacher die, a second call to be made, and the proceeds given, as in the first case, to the representative of the deceased; and should a third death occur, a third call to be made, and so on, a call for every occasion. The experience of the two late Boards of Education has been such as to lead us to expect that not more than three, or at the utmost four, deaths would occur in the year. This would probably require a contribution of ten or fifteen shillings, or it may be a pound, during the year; but it would be a very trifling sum to provide against such a contingency as the utter destitution of a teacher's family in the event of his death, without "a five-pound note," or even "a shilling," after the funeral expenses were paid. This plan is in operation with a certain benefit society known to the writer, and it works wonderfully well.

In the discussion of this question I am not to be met with the calculations and tables of insurance companies. They have to maintain costly establishments, for most part exist for profit, and have to take precautions against imposition by admitting none but "good lives," who will ensure only in their offices when such precaution is carefully taken. Our case is different. We are teachers of the age, we are; and with the health we possess, most of us with families completely helpless in the event of our death. The circumstances of a large number are such as to render ordinary insurance simply impossible. Some two or three will die during the next year, and our experience has gone to show that the elderly man with some chronic disease sees many a younger brother, whom everybody regarded as "a good life," laid low. Neither the young nor the healthy can safely calculate on not being "one of the three." For my part I should rather be one of those that pay the money, than be numbered with those whose widows get all. Now as it is certain that next year some wives will be left widows, it is almost as certain that they will be left in a state of destitution, if the wail we hear about small salaries be true. What better plan then to provide against such calamities than the one here proposed can be devised? Let him that can, do so, and he will be entitled to the thanks of all connected with the profession. I am, &c., J. R.

To the Editor of the Australian Journal of Education.

Sir,—As your valuable and widely circulated periodical has for its object the extension of learning, and is a channel for healthy discussion, I hope I may in a friendly spirit (for I certainly wish success and length of life to the "Australian Journal of Education,") and with all due deference to the writers of what I may refer to, express herein the following ideas, if you deem them worthy of insertion in your next issue. I will be most happy to have my doubts cleared by you, or any of your correspondents, in this as in many other dilemmas, the old saw "Amicus certus in re incertâ cernitur," stands good.

In Grammatical Analysis it seems to me that persons do not sufficiently weigh the thoughts expressed in a sentence, when they always speak of Adjectives as "Enlargements" of the Nouns with which they are (strictly speaking) inseparably connected to form the Subject. For instance, in the sentence, "Wise men think rightly," the Adjective "wise" would be written in all the schemes of Analysis I have seen, (which certainly are not many,) as an Enlargement of "men," whereas the predication necessarily demands the *two* as its Subject. It is not predicated that *men*, (for if the ellipsis "all" were supplied, it would not be true) but "*wise men*," &c. In such a sentence as, "Denmark, a country of Europe, was very formidable in the ninth, tenth, and eleventh century." The words, "a country of Europe," may be termed an "Enlargement of the Subject," in my humble opinion. I may not, however, be reckoned in the same category as the "men" above referred to. Again, in "The ship of seven hundred tons, sails for London." I conceive "of seven hundred tons," to be an Enlargement of the Subject "ship."

In the sentence, "Many were invited," which is the Subject? In issue No. 2. of your periodical, "many" is written in italics as the Subject. Can an Adjective be the Subject? I humbly reply in the negative. You support me by your definition of the "Subject." In the 31st division of your "Analysis of Sentences," you say, "The word or expression which indicates the person or thing, of which something is affirmed, is called the Subject. This may be a Noun, or any word or words used in place of a Noun." "Many" cannot "indicate." With all due respect to the writer in your periodical, "the persons or things" of which "were invited" is predicated; nor can "many" be "used in place of a Noun." The expression, without doubt, is an elliptical one, and, as there is no context, we cannot with any certainty supply the ellipsis.

I am in doubt as to the accuracy of saying, that in the sentence "Attila overran Italy." The last word is the "Completion of the Predicate." You write in Article 44 of Analysis of Sentences, "the Completion of the Predicate is necessary (for what?) when the single verb does not fully express what the Subject is or does." Is not "Italy," "necessary" before any predication can be said to be made? In other words, are not "overran" and "Italy" "necessary to convey the intended idea?" Certainly, just as much as in "Life is sweet." The Verb and the Adjective form "but a single idea." Indeed, in the various schemes of Grammatical Analysis there is a wide field for logical criticism.

Before I conclude this, I must just call your attention to an error (most probably in the printing) made in No. 4 issue of the Australian Journal of Education, page 106, in your "method of Parsing." I am sure you will thank any one to point out such a lapsus, when you profess to guide others; of course, any of your readers, who are well versed in Grammar, would not be misled, but some novices might not perceive the error. The word I refer to is "That," the first word in the second line of your quotation from Cowper. In Parsing it, you call it the "neuter," "agreeing with its correlative 'snail' in person and number." The *relative* must also agree with its antecedent in *gender*. "Snail" is, you say, "masculine and feminine," *igitur*, "that" must be "masculine and feminine." There is no other error, *quod sciam*, in your article on "Parsing," for which I am thankful, as it is, what you mean it to be, a guide.

PHILELPIS.

To the Editor of the Australian Journal of Education.

SIR,—In whatever department of the State uniformity of results be expected, uniformity of method must be employed in order to obtain such. That is in the various functions of any department a generalised system should exist, so as to facilitate the arrival at satisfactory and uniform conclusions. This proposition applies more particularly to the Educational Department, in which uniformity is not only desirable, but absolutely necessary; for it will readily be admitted that a variety of methods in Government schools is highly injurious to pupils who attend several schools during the progress of their education.

And not only the methods but also the books employed should be the same. The Council of Education have sanctioned three sets of books, and doubtless children throughout the colony are now receiving instruction from these different books.

Now, Sir, I would respectfully ask the following question for the consideration of those who may think the matter worthy of their attention. Would it not be better to have but *one approved set of books?*

The use of several sets must be a material disadvantage to both teacher and pupil, each of whom is liable to removal from one part of the colony to another. In the first place the teacher is required to undergo an examination in the "series of reading books." Which series? I suppose the one to which he had been accustomed, as it would be too much to presume that a knowledge of the whole three is necessary in order to pass a successful examination. But the knowledge of any *one series* would be of little value should he be appointed to a school in which a *different series* have been used, unless he discontinued the latter and introduced the former, which would in all probability retard the progress of the pupils for some time at least. And to the pupil it would be of some advantage to find his own familiar book in whichever school he may be placed, as it would tend to make the course of his education quite progressive.

The following extract which I take from a pamphlet containing an exposition of the "National System," by W. Wilkins, Esq., published in 1865, will illustrate my meaning on this point:—

"In a country such as New South Wales, in which a large proportion of the population is continually shifting, it is a matter of some consequence that the transfer of a pupil from one school to another should not occasion any interruption in the process of education through which he is passing, but that the teacher should be enabled to carry him forward from the point already attained without stoppage, and without deviation from the course previously entered upon."

To enable the teacher to effect this desirable object, would be an important motion towards uniformity, but he cannot carry out the suggestion contained in the passage just quoted if he have a set of books wholly new to the pupil. If uniformity be at all considered a necessary element (as it is) in the tone of our new system, we certainly ought to employ one universal mode of attaining to it; and one of the most important steps that can be taken towards this end would be to select the best series of those already sanctioned by the Council, and have but *one approved series.*

I am, Sir,
Yours respectfully,
S. P. M.

THE STUDY OF ENGLISH *AND* THE ANCIENT CLASSICS.

To the Editor of the Australian Journal of Education.

SIR,—Will you kindly afford space for a reply to "T. C. D.," who in your May number rides full tilt against me, because I do not see, so clearly as he does, the imperative necessity of studying Latin in preference to English, or that it is the most philosophical method of pursuing the latter. As I do not wish my communications to degenerate into mere personal controversy, "T. C. D." may depend on receiving no further answer from me in direct terms.

It is a pity that he did not read my letter a little more carefully, for he would then have reviewed it with greater fairness. He has adopted to a great extent the *ignoratio clenchi* kind of argument in labouring to prove that I think little of the study of Latin, and that my estimate of English, as a mental discipline, is as high as, or even higher than that which I entertain of the classic tongue. The garbled portions he has quoted from my letter must convey this impression to any one who has not read it. Now this is a most unjust statement of my opinion, as an honest examination of it will show. I prefer English to Latin when the study of the one is pursued to the neglect of the other, when much parade is made of one's Latinity, while, as it often happens, comparatively little is known of the history and grammatical structure of the mother tongue. Admitting that English cannot be studied scientifically apart from Latin, *i.e.*, without its aid, it must also be granted that an inquiry into the origin, primitive forms, and gradual development of our vernacular speech from the languages with which it has from time to time come into contact, may be pursued to an extent quite sufficient for most practical purposes without a knowledge of Latin. But in order to obtain a critical acquaintance with English, so deficient as it is in inflections, but which has been derived chiefly from Anglo-Saxon, a highly inflected language, we must have recourse, as a standard of comparison, to some language of similar structure, and this standard, by common consent, is adjudged to the Latin.

In advocating the claims of English so warmly, I am not putting myself forward as an authority in the matter; but, while not exactly agreeing with Pope who says that "a little learning is a *dangerous* thing," hope that I have the little necessary to stimulate me to the acquisition of more, by convincing me how small the portion is which I at present possess.

If being "oblivious of the fact that, to be a good classic, you must be a good English scholar," is an evidence of my stolidity, I can only say it is because experience proves the contrary; for it does not follow that being the one, you are, "of necessity," the other also; else every classical scholar would be an authority in English, and would speak and write it in its "purest form," *i.e.*, according to the best models of excellence. "T. C. D." will of course object to this, that such classical scholars as are deficient in a knowledge of their native language belong to the "boobies" among the students, "whose obtuseness seems to be their only characteristic." No, they are not. Many of these "boobies" are men whose general literary merits none can question, and yet errors in composition, and even violations of the plainest grammatical rules may be extracted in profusion from their writings. Such an acute classical critic as Bentley will not be ranked as a booby, I am sure; nor will Southey, Willis, Rogers, Sidney Smith, the editors of the magazine known as Blackwood's, the "Quarterly," &c., &c., be thus dubbed, unless by greater "boobies." If "T. C. D." is desirous of citations from these authors—by way of proof that it does *not* follow you are well taught in English because you have been well drilled in Latin—he shall have them. I imagine, however, that the statements I am about to quote from a work recently published will sufficiently establish what I am contending for, viz., to engage in the study of a foreign language in preference to one's own, is to put the cart before the horse, or to use a more elegant expression, it is a *hysteron-proteron*. Subjoined are the quotations just alluded to:—

"To such as can hardly believe, that in our Public Schools, Colleges, and Universities there is not the slightest special training in English, even for those who are about to enter Holy Orders, I can only say that, however surprising it may seem, it is the simple fact. Some have said that no English teaching is needed in our Universities, for men are sufficiently instructed in the language when they 'come up.' I meet this by a simple denial, adding that most men are not sufficiently instructed *even when they go down.* I appeal to College Tutors, Examiners, Bishops' Chaplains, and the public, whether I exaggerate or not in making this assertion." [A Plea for the Study of the English Language, by Alexander J. D. D 'Orsey, B.D., English Lecturer at the Corpus Christi College, Cambridge, p.p. 2, 37.]

In the "Report of Her Majesty's Commissioners appointed to inquire into the management of certain Colleges and Schools," March, 1864, will be found the Questions and Answers given below :—

Question, No. 3530 (Lord Clarendon.)—"What measures do you take to keep up English at Eton ?"

Answer (Head Master of Eton)—"There are none at present, except through the ancient languages."

Question, No. 3531.—"You can scarcely learn English reading and writing through Thucydides ?"

Answer—"No."

Question, No. 3532 (Sir S. Northcote)—"You do not think it satisfactory ?"

Answer—"No ; the English teaching is not satisfactory, and as a question of precedence, I would have English taught before French."

"T. C. D." would have Latin taught before English, or simultaneously with it, the first being a means to the second ; the Head Master of Eton, quite as good an authority "in his way" as "T. C. D.," would decide otherwise, if the question was put to him, My opponent asks : "What have we in English, with our scanty accidence, inflections, aud conjugations, comparable with the classic languages." I have not asserted that we can compare with these languages grammatically, though in some respects the syntax of our own is much more philosophical than theirs. For example, in the distinction of gender, which is not only simpler, but much more natural. I may also adduce the figure of speech called personification, whereby we give life and sex to inanimate things. This is one of the most beautiful features in our language, and, indeed, is almost peculiar to it. Did space permit, it would be easy for me to show that the structure of English grammar, which is founded upon the logical relations of words, without special consideration of their forms, is much more intellectual than that which distinguishes highly inflected languages, whose arbitrary models for the arrangement of words in periods, to be learned by rote, are followed afterwards as unreflectingly as the processes of a mechanical pursuit. It is true that the study of Latin is of value in itself, and even auxiliary, as I have before said, to a more comprehensive knowledge of English ; but it is a fact borne testimony to by one of the greatest modern authorities on the subject, G. P. Marsh, "that the construction and comprehension of an English sentence demand and suppose the exercise of higher mental powers than are required for the framing or understanding of a proposition in Latin."

But after all that can be urged in favour of classical studies, it must be admitted that the mere grammar of a language, however complicated and artificial its structure, is but the *hierón* or *témenos*, *i.e.*, the precincts of the temple ; the *naós*, or proper habitation, in which the spirit—the presiding genius of that language—resides, is within, and is not often approached even when the outer courts have been passed. "The intellectual drill unceasingly demanded to construe a Latin sentence with precision and accuracy" may be acquired by the student, who yet may be a mere sciolist. A good grammarian or even a good linguist is not always, nor frequently, a profound writer. To all this, of course, your correspondent will reply, "*Mirabile dictu !* Does not every one know, &c." Well, suppose they do : no one can know simple truths too well ; and simple truths very often pave the way to the knowledge of recondite ones. I am not employing towards him the *argumentum ad ignorantiam*, but it would be easy to show that he has employed it towards me. He uses, too, the *argumentum ad crumenam*, which is a very potent one to all of us poor teachers, especially in times like the present. In this particular, as well as in the general strain of his letter, I must admire the *empressment* with which he writes, although in the dogmatic way in which he asserts his opinions there is not much of the *suum cuique* about him. I am afraid that his judgment of my letter affords another illustration of Carlyle's sentiment, in reference to persons who dispute with each other—"their quarrels are chiefly misunderstandings." I contend only for the *ariston metron*, the golden mean. While no one perhaps will "*seriously dispute* the fact of our possessing authors of the highest standing in all departments of literature," it is nevertheless a fact too generally ignored and undervalued. Many scholars, versed in all that Euclid, Archimedes, Cicero, Plato, and others have written, are yet but slenderly acquainted with the great writers in their own language; nor have they found the study of those ancient worthies conduce very much to that end. Let us have all that the mighty minds of Greece and Rome have given birth to, if we can acquire it, and every teacher should make an effort to do so; but let us also have all that the eminent writers adorning English literature have generated, even though we know but comparatively little of "the ancients."

Now that a promise has been given from the editorial chair, that as soon as this journal is enlarged its columns will supply introductory lesson on the classics, I trust that every teacher who feels his deficiency in this branch will avail himself of the opportunity to improve himself. None will do so more readily than I shall. Coupled with the very useful papers given to us on Analysis, the Latin lessons promised will go far towards furnishing a thorough knowledge of English, so far at least as the nature and structure of sentences with poetical forms, and ere long, I trust, paraphrasing and themes for exercise in original composition—are calculated to effect that object, and they will certainly do very much.

If "T. C. D." is really such an athlete in classics as he seems to think, he needs not demean himself by entering the arena with a pigmy. But just as the mouse was of great service to the snared lion, I may render both him and others some feeble service by quoting a passage or two from the Latin authors he refers to, accompanying each excerpt by a free translation :—

Quot capitum vivunt studiorum millia.—HORACE.

The number of different pursuits is in proportion to the number of men who live.

Nec verbum verbo curabis reddere interpres.—Ibid.

Nor word for word translate with painful care.

Non omnia possumus omnes.—VIRGIL.

We are not all able to accomplish the same things.

Laudate ingentia rura exigium colite.—Ibid.

Commend the large excess of *spacious* vineyards; cultivate the *less.*

I am, Sir,
Yours respectfully,
J. SHELDON.

AN ALBINO WOMAN.

To the Editor of the Australian Journal of Education.

SIR,—In the issue No. 1 of your useful and entertaining periodical, you say "We shall be happy to receive communications from Teachers in the country, relating to the plants, *natural curiosities*, *productions*, *&c.*, of the colony."

There is in this neighbourhood (at least there was in this township a few weeks ago) a *white-black gin.* She has a white face, but it is terribly disfigured *(turpe dictu)* by the "nullah nullah," or some other cruel weapon of warfare in the hands of some ungallant blackfellow. Her hair is a light flaxen in colour, and, no doubt, if well combed and dressed in "botryoidal locks" (but not in the present hideous fashion of the white ladies in general,) would look remarkably pretty. Her eyes are pinkish. She is in fact a *black albino* woman. I am told by some persons here, who have known her for some years, that both her parents were black, and she now carries about with her an infant perfectly black. She is well worth seeing as a great natural curiosity, but her natural *mauvaise honte* will only allow a *coup d'œil* to a white man.

Herewith enclosed is a specimen of a small portion (two or three plants) of *cotton* grown a few miles lower down the Macquarie than Warren. The specimen speaks for itself. The soil on which it grew is a rich black soil. The only drawback to the growth of cotton, or anything else, in this neighbourhood, is the dryness of climate, which is a general complaint in New

South Wales. This fact, however, shows the necessity of more labour. If the land were irrigated, it would produce anything almost. In agriculture, as in every other pursuit, our motto should be "*labor omnia vincit.*"

I remain, yours, &c.,
PHILELPIS.

NOTICES TO CORRESPONDENTS.

A. LANSDOWN.—We do not think the Council of Education would sanction the use by the pupils of any books not included in the authorised list. There would probably be less objection to the Teacher's reading to his pupils from a suitable book, if the portions to be read are selected with judgment. If, however, children need such reading as "a great relief" from being "condemned to always pore over the same thing," there must be a serious defect in the teaching. Properly treated, the Reading Lesson, even from a dull book, is the most interesting lesson of the day—not from what is found in the book, but from the illustrative knowledge the Teacher is able to bring to bear on it.

D. TREEHY.—In "Tate's Arithmetic" you will find "First Principles" fully explained, not only with reference to Proportion, but to other portions of the subject.

PHILELPIS.—We have no Greek type and cannot therefore print your letter on the Syllogism as written. If you do not object to the omission of the Greek quotation, or will write the words in ordinary characters, so that it may be inserted in italics, your letter can be published in our next issue.

R. T.—Several of the Atlases published by G. Philip and Son, and compiled by W. Hughes, would, we believe, suit your purpose. If you require a more expensive atlas, a great variety could be obtained at any of the principal booksellers in Sydney. For general purposes, it matters little which you choose.

ENLARGEMENT OF THIS JOURNAL.—Our readers will observe that this issue contains 40 pages of matter, exclusive of advertisements; and even further improvements may be expected should we be still favoured with the patronage it has hitherto received from the teaching profession. Our readers nevertheless will feel, with ourselves, considerable disappointment at finding no articles on Botany, Chemistry, Natural History, &c. We can assure them that the fault does not lie with us, but those from whom contributions on such subjects were expected. We are decidedly of opinion that a fair knowledge of these sciences is quite as important as Euclid or Algebra, and that it forms a valuable part of the qualifications of a teacher, as oral lessons will be of much interest to his pupils. It was suggested that prizes, &c., should be offered, but we think that to an honourable mind the honour of having one's contributions published or even honourably mentioned would be no inconsiderable prize. Our columns are still open for those who desire to write on these subjects, and thus avail themselves of one of the principal advantages which this journal was originally designed to afford—development of the power of composition.

QUESTIONS FOR SOLUTION.

1. B does a piece of work in 112 days with A's assistance for 21 days. He would do it in 91 days if A helped him for 49 days. In what time could they do it together?

2. How much tea at 5s. 8d. must be mixed with 19½ lbs. at 6s. 2d., so that by selling at 6s. 5d. ten per cent. may be gained?

3. A bankrupt's estate pays 16s. 8d. in the £. The cost of administration was 33 per cent. of the estate, and the creditors lose £1060 8s. 10d. What was the amount of his debts?

4. 13·245768 × 2·351467 correct to three places of decimals, using as few figures as possible.

5. A ship with a crew of 175 set sail with just enough water for the voyage. At the end of 30 days disease began to carry off 3 men daily. A storm protracted the voyage 3 weeks: they however just reached port without the water falling short. Required the time of passage.

6. The fore wheel of a carriage makes 6 revolutions more than the hind wheel in going 120 yards. If the circumference of the fore wheel be increased by one-fourth, and that of the hind wheel by one-fifth, the above difference will be reduced from 6 to 4. What is the circumference of each wheel?

7. $\frac{1}{3}\left\{4a(1+x) - \frac{9}{4}(a-x)\right\} = \left\{3a(1-x) - \frac{16}{3}(a+x)\right\}$ Find x.

S. B.

8. THEOREM.—Prove that the lines bisecting at right angles the sides of a triangle all meet in one point.

9. Paraphrase the following:—

A cloud lay cradled near the setting sun,
A gleam of crimson tinged its braided snow;
Long had I watched the glory moving on
O'er the still radiance of the lake below,
Tranquil its spirit seem'd, and floated slow!
Even in its very motion there was rest;
While every breath of eve that chanced to blow,
Wafted the traveller to the beauteous west.
Emblem, methought, of the departed soul!
To whose white robe the gleam of bliss is given;
And by the breath of mercy made to roll
Right onward to the golden gates of heaven,
Where, to the eye of faith, it peaceful lies,
And tells to man his glorious destinies.

MUDGEE.

10. Parse the words in Italics in the following sentences:—

a. I *cannot guess*, but I would rather see it done, than *anything else*.

b. *Yes*, plants have little tiny holes at the ends of their roots.

c. When George came *home* that *night*, his kind mother saw at *once* that something was the matter.

d. *There* is also much useful exchange among different nations, *which* we call commerce.

e. The moth *only* comes forth by night, *when* she is *pretty* sure to dash herself into the flame of the candle.

f. He *first* promised to join the enterprise.

Show also that these words do not admit of ambiguity or of being taken to admit of other meanings; *i.e.*, show that *which* does not apply to "nations" as well as "commerce,"—is it meant that the moth never comes forth by day, or that it is the *only* thing that comes forth by night—or is it only *when* she has a certainty of dashing herself against the candle that she will venture out —or is it in the event of her coming out that she will dash, &c., and whether it was the promise or the enterprise that was to be first.

11. Analyse the following sentence:—

O Majestic Night!
Nature's great ancestor! Day's elder-born!
And fated to survive the transient sun!
By mortals and immortals seen with awe.

DOCTUM.

12. Analyse the following passage:—

"Who shall say what work and works this England has yet to do? For what purpose this land of Britain was created, set like a jewel in the encircling blue of ocean; and this tribe of Saxons, fashioned in the depths of time, "on the shores of the Black Sea," or elsewhere, "out of Harzgebirge rock," or whatever other material, was sent travelling hitherward, no man can say; it was for a work, and for works, incapable of announcement in words. Thou seest them there; part of them stand done, and visible to the eye; even these thou canst not name; how much less the others, still matter of prophecy only." A. L.

13. Write Notes of a *first* lesson on the Geography of Australia as to a Third Class.

14. What is meant by the terms *Melanesia* and *Micronesia*?

FOR OUR LADY READERS.

We give the following solutions to Nos. 3 and 4, as received by the parties furnishing us with the questions:—

Solution.—1 to 49 so as form a square to count 175.—

38	14	32	1	26	44	20	= 175
5	23	48	17	42	11	29	= 175
21	39	8	33	2	27	45	= 175
30	6	24	49	18	36	12	= 175
46	15	40	9	34	3	28	– 175
13	31	7	25	43	19	37	= 175
22	47	16	41	10	35	4	= 175
175	175	175	175	175	175	175	

Solution.—1 to 64 so as form a square to count 260.—

64	1	63	2	62	3	61	4	= 260
5	60	6	59	7	58	8	57	= 260
9	56	10	55	11	54	12	53	= 260
52	13	51	14	50	15	49	16	= 260
48	17	47	18	46	19	45	20	= 260
21	44	22	43	23	42	24	41	= 260
25	40	26	39	27	38	28	37	= 260
36	29	35	30	34	31	33	32	= 260
260	260	260	260	260	260	260	260	

STELLA.

No lady has favoured us with any attempt at the analysis or solution of the charade. What say the gentlemen? Which will they award them—cares or a cares(*s*)?

ANSWERS TO QUESTIONS IN No. 6.

Question 1.—Correctly solved by R. Bousfield, D. Treehy, Doctum, D. A., Hargraves, J. McDonnell, J. Brown, J. O'R., Keira, M. B., P. Downey, R. C., W. and J. Hullick, W. B. Geary. Answer: 1360 yards; time 1 min. $54\frac{4}{11}$ sec.

The following is the solution by Doctum:—

40 seconds $=\frac{1}{90}$ of an hour, and as the kangaroo could travel 18 miles an hour, $18 \times \frac{1}{90}=\frac{1}{5}$ mile, or 352 yards = the distance which it travelled before being observed, and $352 + 40 = 392$ yards $= \frac{49}{220}$ of a mile = the distance which the kangaroo was in advance when the hound started; and as K travels away from H, their rate per hour of approximation will be the difference of their ratio, viz., $25 - 18 = 7$ miles an hour, and this is the rate at which the interval between them is diminished, hence H will overtake K in $\frac{49}{220} \div 7 = \frac{7}{220}$ hours from H having started, and K or the Kangaroo will have run $18 \times \frac{7}{220} + 352$ yards = 1360 yards.

Answer: $\frac{7}{220}$ hours = 1 minute $54\frac{6}{11}$ seconds. 1360 yards.

Question 2.—By R. Bousfield, C. Park, D. Treehy, Doctum, D. A., Hargraves, J. McDonnell, J. Brown, Keira, Mudgee, P. Downey, R. C., W. and J. Hullick, and W. Geary. Answer: A 12 days, B 15 days, and C 20 days.

The following is the solution by Mudgee:—

A, B and C, together, will complete the whole work in 5 days, ∴ they will do $\frac{1}{5}$ of the whole in one day; and for every measure of work done by B, A and C together will do two measures ∴ B does $\frac{1}{3}$ of $\frac{1}{5}$ of the whole in 1 day $=\frac{1}{15}$ ∴ he will do the whole in 15 days. And likewise for every measure done singly by C, A and B do three measures, ∴ C does $\frac{1}{4}$ of $\frac{1}{5} = \frac{1}{20}$ ∴ C will do the whole in 20 days. Now, in one day, B does $\frac{1}{15}$ and C does $\frac{1}{20}$ ∴ A and C together do $\frac{1}{15} + \frac{1}{20} = \frac{7}{60}$, and $\frac{1}{5} - \frac{7}{60} = \frac{5}{60}$ = the number of measures done by A in 1 day, ∴ A will do the whole in 12 days, B $\frac{1}{15} = 15$ days, and C $\frac{1}{20}$ or 20 days.

Question 3.—By C. Park, D. Treehy, Doctum, D. A., Hargraves, J. McDonnell, J. Walsh, J. Brown, J. O'R., Keira, Mudgee, M. M., M. B., P. Downey, R. C., T. C., Seven Hills, W. Smith, W. and J. Hullick, and W. Geary. Answer: 6 quince, 12 apple, 59 orange, and 367 peach trees.

The following is the solution by W. B. Geary:—

Let x = quinces, then $2x$ = apples, $9x + 5$ oranges, and $55x + 37$ = peaches. Hence $x + 2x + 9x + 5 + 55x + 37 = 444$, or, $67x + 42 = 444$, and $67x = 402$ ∴ $x = 6$ = quinces, $2x = 12$ = apples, $9x + 5 = 59$ = oranges, and $55x + 37 = 367$ = peaches. 444 = Total.

Question 4.—By all who cared to try it. Solution not worth space.

Question 5.—By J. Brown, Brandon Grove, C. Park, D. Treehy, Doctum, J. Walsh, J. O'R., Keira, Mudgee, M. B., P. Downey, R. C., W. and J. Hullick, W. B. Geary, and T. Blackers. Answer: £844 8s. $10\frac{2}{3}$d., Simple Interest.

The following solution is by J. and W. Hullick:—

£1200 less duty of 5 per cent. = £1200 − 60 = £1140.

The interest on £100 for 7 years @ 5 per cent = £35.

Then—as £135 : £100 : : £1140 : £844 8s. $10\frac{2}{3}$d. = Present value.

The following have reckoned at Compound Interest:—Albert Lake, D. A., J. McDonnell, and S. C. Answer: £810 3s. 6d.

The following is the solution by D. A.:—

£1200 less 5 per cent. duty = £1140.

The question is to find what sum would produce £1140 in 7 years, at 5 per cent., Compound Interest. Then because £1 plus its interest for one year equals £1.05, the sum required will be $\frac{£1140}{(1.05)^7}$ £810.1769 or £810 3s. 6.456d.

Question 6.—By A. A., D. Treehy, Doctum, D. A., J. McDonnell, J. Walsh, J. Brown, Keira, Mudgee, M. B., P. Downey, R. C., W. Smith, W. and J. Hullick, and W. Geary. Answer 11.2.

The following is by D. Treehy:—

Let $a\ b\ c$ represent the respective sides. $a=13$, $b=14$, and $c=15$, and let x represent the section of the base from the perpendicular to the line a ∴ the other section $=c-x$. By the 47 of Euclid I. Bk. we get $a^2-x^2=b^2-(c^2-2cx+x^2)$ by carrying out this equation, and substituting the numbers we find $x=6.6$, and then $13^2-6.6^2=125.44$, and $\sqrt{125.44}=11.2$ the length of the perpendicular.

Question 7.—By A. A., J. McDonnell, W. Smith, and W. B. Geary.

Question 8.—By C. Park, D. A., J. McDonnell, J. L. K., J. Brown, Keira, Mudgee, M. B., P. Downey, W. Smith, and W. and J. Hullick. Answer: 5 h. 45 min. a.m. on Jan. 1, 1868, at Alexandria; and 7 h. 15 min. p.m., on Feb. 29th, at New Orleans.

The following solution is by Keira :—

90 deg. + 30 deg. = 120 deg. = the distance between the two places. 4 minutes of time corresponds with a degree. Therefore $\frac{120 \text{ deg.} \times 4}{60}$ = 8 hours, the difference in the time ; but as time comes earlier to the east than to the west, when at New Orleans A's 9.45 p.m., Dec. 31st, 1867, at Alexandria it will be 9.45 + 8 = 5 h. 45 min. a.m., Jan. 1st, 1868.—Answer.

When at Alexandria it is 3 h. 15 min. a.m., on the 1st March, 1868, it will be at New Orleans 3 h. 15 min. a.m., &c. — 8 hours = 7 h. 15 min. p.m., on on Feb. 29th, 1868.—Answer.

Question 9.—Answers have been received from A. Lansdown, P. Downey, T. Blakers, J. O'R., Doctum, M. B., W. Smith, and three others whose papers contain no name or signature.

The parsing is much improved in this case, though in some points defective through the omission of essential matters. One person, for example, parses "wished" as "a transitive verb agreeing with Ellen." The following is the parsing we prefer :—

Ellen [1] . . .	A proper noun, sing., fem., nom. to verb "wished."
wished . . .	A trans. verb, third per. sing., past, indicative, agreeing with its nom. "Ellen."
most	Adverb, modifying verb "wished."
to see	Trans. verb, infin. mood, governed by the verb "wished."
the	Definite article, prefixed to noun "Elephant."
elephant . . .	Common noun, sing., mas. or fem., object. case, governed by trans. verb "to see."
but	Conjunction joining clauses—"Ellen————elephant," and "but James————roar."
James [2] . . .	Proper noun, sing., mas., nom. to verb "longed."
longed . . .	Trans. verb, third person, sing., past., indicative, agreeing with its nom. "James."
to look . . .	Intrans. verb, infinitive mood, governed by the verb "longed."
at	A preposition governing the noun "lion."
a	Indefinite article, prefixed to noun "lion."
lion	Common noun, sing., mas., object., governed by the prep. "at."
and	Conjunction, joining phrases, "to look at a lion," and "to hear him roar."
to hear . . .	Trans. verb, infinitive mood, governed by verb "longed."
him	Third personal pronoun, sing., mas., object., governed by trans. verb "to hear."
roar	Intrans. verb, infinitive mood, governed by the verb "to hear."

1 and 2.—*See Analysis.*

Simple Subject.	*Simple Predicate.*	*Completion.*	*Extension.*
Ellen	wished	to see the elephant	most.
James	longed	to look at a lion and to hear him roar.	
or (James)	(longed)	to hear him roar.	

A Combined Sentence consisting of two (or three) clauses, connected by "but," and in the Adversative Relation. Some would prefer to analyse the sentence thus :—

Simple Subject.	*Simple Predicate.*	*Completion.*	*Extension.*
Ellen	wished to see	the elephant	most.

We prefer the first method as exhibiting more precisely the idea intended to be conveyed.

Question 10. The expression "First, second, and third verses" is said to be correct by Albert Lake, A. Lansdown, W. Smith, P. Downey, and to be incorrect by Mudgee. Our opinion is that the expression is correct, *first-second-and-third* being regarded as a sort of compound adjective which requires a plural noun.

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THE SOCIAL POSITION OF TEACHERS.

Several correspondents have at various times explained their views of the reasons why the teaching body is so lightly esteemed by the general public, and why a higher position in society is not awarded to members of the teaching profession. Beyond expressing our dissent from these views, we have hitherto abstained from stating our opinion on this question. We now approach the subject with some diffidence—not because we have any doubt as to the correctness of our conclusions, but because we shall probably be found to differ widely from some with whom we would gladly be in accord. The good sense of Teachers must determine whether the views now to be stated are founded upon reason.

The estimation in which any profession, as such, is held by the public depends upon the average personal worth of each member. Individuals will be dealt with according to their respective merits; some may be held in high honor, while others are regarded with contempt. The intelligent and conscientious medical practitioner, for example, will be respected in all circles; the man who endangers people's lives by treating their disorders at a time when his mind is beclouded with strong drink, is as universally despised. As a fact, the medical profession contains a large majority of men of the highest character, and it is esteemed and trusted accordingly. But were the case otherwise, were a majority to consist of sots and quacks, would not public respect and confidence be withheld? Every other profession must expect to be dealt with on the same principle.

Since, therefore, the public opinion of the teaching profession will be formed upon the merits of the members, it may be useful to inquire if there are any circumstances which justify the public in holding a low estimate of its value. We believe that such circumstances do exist, and that they produce a very serious effect.

In the first place, the conduct of teachers to their professional brethren is sometimes calculated to inspire the public with distrust and even disgust. In the medical and legal professions there is an established etiquette which restrains the members from expressing an unfavourable opinion of each other, except as a matter of public duty and necessity. A doctor, for example, usually preserves a discreet reticence as to the treatment adopted by his predecessor, and seldom expresses his disapproval of it, unless compelled to give evidence on the case in a court of law. In the same way, one solicitor would carefully refrain from animadverting upon the shortcomings of another, however improper or unadvisable he might consider the steps already taken in his client's behalf. A totally different practice seems to prevail in the teaching profession. Let a teacher leave his school, and in all probability his successor will declare to the parents of scholars, to the Local Board, to the Inspector, and to the public in general, that things had been very badly managed. He will allege that the organization was imperfect, the discipline faulty, and the instruction ineffective. Cases have even occurred in which the pupils themselves have been told that the teacher whom they formerly loved and honoured was incompetent, that all his plans were bad, and that the school needed a complete reorganization. The mischievous effects of this course are manifested in a variety of ways. Assuming that there is sufficient ground for forming an unfavourable opinion of the teacher who has retired, it would be more generous to pass over his faults and errors in silence. We should speak of the absent as we would of the dead—say nothing of them, unless it be to their praise. But when the only reason for judging unfavourably is a difference of opinion on matters respecting which men may honestly disagree, the want of charity involves also the absence of justice, and the necessity for silence as to the alleged demerits of the school becomes more imperative. It is a serious injury to children to destroy their confidence in one whom they have respected, and a Teacher who perpetrates this error will, in so doing, undermine the foundation for trust in himself. Again, parents and Local Boards who are often unable to discriminate between the professional merits of different Teachers, will be apt to think one as good as another, and since they are assured that their faith was placed in one man erroneously, they will infer that they may again be deceived. The consequence is that they think highly of no teacher, until long experience has enabled them to distingish base from sterling metal. Inspectors are probably seldom deceived by the stories told them respecting the former management of a school; and, if the truth were known, their opinion of Teachers who resort to such means of acquiring a reputation is not likely to be raised by the transaction. On every ground, Teachers would do well to imitate the reserve of other professions, and keep all unfavourable opinions of others to themselves, except when obvious duty renders it necessary for them to speak.

Another mode by which the teaching profession is lowered in public esteem is the practice of incurring pecuniary obligations which there can be no means of discharging. A teacher with a small income overtaken by some unexpected calamity may be excused for contracting a debt which he will probably pay in a reasonable time, and which he has the full intention to pay. But on the other hand, a teacher with average emoluments whose pecuniary affairs become embarrassed because of his expenditure for luxuries or superfluities, deserves no pity. His indebtedness has no excuse, and this fact is felt by his creditors as a reason why he should not be exempted from the inconveniences attached to such a condition. Such men injure the whole profession in public esteem, while, if they have any conscience at all, they cannot but contribute in a most effectual way to their own unhappiness. To these Teachers we would say, with all earnestness, "Suffer any privation in order to release yourselves from your painful position. Show that you have honest intentions, notwithstanding your present inability to meet your engagements."

Lastly, a reputation for intemperance not only destroys the character of the individual, but affixes a stigma to the profession of which he is a member. A country newspaper some time ago described all the Teachers in a certain district as more or less intemperate. The charge was probably exaggerated, but it would seem that some of the teachers had, by their indiscretions, given a colouring of truth to the allegation. If horses recognised as belonging to Teachers are found standing for hours at the door of a public house, it is natural to infer that the owners are within, and that they have visited the establishment for drinking purposes. They may have been perfectly temperate, though many people would be slow to admit the probability of such a view. The obvious remedy is to avoid the public house altogether. What would be the consequence to the medical profession if the horses of all the doctors in a populous district were to be seen standing for long periods at a public house door, and what opinion would be formed of the sobriety of their masters? We have the highest confidence in the integrity, the temperance, and the sense of duty of the great body of Teachers, but we feel that the profession generally is injured by the practice of a few who disregard public opinion and, by not avoiding the appearance of evil, subject themselves and their brethren to the penalties due to evil itself. The number of really intemperate Teachers is surprisingly small: let us hope that the number of those who are suspected of intemperance will speedily diminish.

The foregoing remarks have been penned upon the assumption that the complaint of the imperfect recognition of the teaching profession by the public is well grounded. The fact, we believe, is precisely the reverse. As a rule a Teacher is honoured by all whose good opinion is worth having, to the full extent that he deserves. Of course there will always be, in a mixed community, a certain number of people whose want of education and mental endowments will dispose them to withold the ordinary indications of respect from all who may be considered superior to themselves. It is to be hoped that teachers are not so weakly desirous of praise, as to repine at the absence of honor from people of this class. They should be content with the silent undemonstrative approval of men who recognise the importance of the Teacher's office, and who appreciate the man by whom it is worthily filled.

Teachers are in general noted for their ignorance of what is called "the world." Many an errand boy in the streets of Sydney has a larger fund of this particular kind of knowledge than the average of masters holding First Class Certificates. This limited acquaintance with the ways of the world, and with the views, feelings, and habits of mankind, may possibly lead Teachers to suppose themselves neglected, where other men would never dream of looking for special recognition. Hence probably the explanation of the fact that Teachers often expect extravagant praise and honor under what men of the world would deem very trivial circumstances. A member of the School Board drops in casually, and talks to the Teacher as he would to a man of his own rank; the latter at once conceives himself slighted, because of the absence of *empressement* in the manner of the former. He is thrown into a condition bordering upon despair if a ruffianly parent calls at the school to abuse him for conduct dictated by pure kindness and conscientiousness; and if the Inspector, before leaving, should omit the moral patting on the back, the Teacher thinks the pupils must certainly have failed in the examination, notwithstanding his twelvemonths' care and toil.

This is simply childish. Even if good taste permitted the perpetual recurrence of demonstrations of esteem, people have not time for them. In the hurry and business of life we have often to take much for granted as regards our feelings towards each other, and cannot afford to be continually embracing and complimenting. The real dignity of the profession would be better secured if Teachers would brace up their nerves and resolve to acquire a more manly and independent type of character. The consciousness of having faithfully performed their duties and of deserving respect for their work's sake, should suffice to sustain them without courting expressions of praise under circumstances in which ordinary men never think of giving or receiving laudation.

It may happen that a Teacher is stationed in an isolated locality far from intellectual companionship and deprived of intercourse with congenial minds. He may have to struggle unaided against ignorance and vicious propensities, in a contest in which all the sympathies and influences of those around are opposed to his efforts. Physical discomfort may add its annoyances to the mental troubles which disturb his peace, and anxiety for those dependent upon him may aggravate his distress. In such circumstances, few would withhold a word of sympathy and encouragement to one who was bravely maintaining his post, or abstain from expressing in manner, if not in speech, the admiration due to courage and skill exerted in a good cause.

ANALYSIS OF SENTENCES.

(*Resumed from No.* 6.)

COMPLEX SENTENCES.—THE ADVERBIAL CLAUSE.

95.—The design of the Adverb is primarily to give expansion to the predicate by expressing some of the circumstances connected with it. As the *Adverb*, in its relation to the *Verb*, states *how*, *when*, and *where* things are done, so the *Adverbial Clause* will be found to occupy a similar relation to the *Sentence*, dealing with circumstances of *time*, *place*, *manner*, *cause*, and *effect*. In the case of this clause, we find the *Adjuncts*, which, in the *Simple Sentence*, formed extensions of the predicate, now expanded and standing forth, not as *words* and *phrases*, but as *distinct clauses.*

The Adverbial Clause is generally introduced by an Adverb, or Adverbial Phrase; but there are often cases where no such introductory means are employed.

96. *Time.* Adverbial clauses of *time* express:—

I. Time of occurrence of the event, as—

"The wise man is happy *when he gains his own approbation.*"

II. Duration of the event, as—

"*While the Admiral was absent*, the ships continued the blockade."

III. Recurrence of the event, as—

"*Ever, when the moon was low,*
And the shrill winds were up and away,
In the white curtain to and fro,
She saw the gusty shadow sway."

97. *Place.* Adverbial clauses of *place* express:—

I. Motion to a place, as—

"I shall proceed *whither* I am *directed.*"

II. Motion from a place, as—

"We were now traversing that elevated region *whence Hannibal descended upon the fertile vales of Italy.*"

III. Rest in a place, as—

"The work still lies where it was deposited."

98. *Manner.* Adverbial clauses of *manner* express *how* a thing is done, as—

"He stated the case just as it was reported to him."

"Behold how brightly beams the morning."

99. *Comparison or Analogy.* Adverbial clauses of this character express comparison or contrast, thus—

"He could not write as Dryden wrote."

100. *Cause.* Adverbial clauses of this character usually state some *reason, cause*, or *purpose*, thus—

"I must desist *since you will not attend.*"

"*As you press me so much*, I shall come."

"I called to explain personally, *that my project might be better understood.*"

101. *Effect.* Adverbial clauses of this character deal with some *consequence* or result, as—

"Be silent *that you may hear.*

"Take heed, *lest on this dangerous rock you slip.*"

"It was not taken without thy consent, that thou shouldest so repine."

102. *Condition.* Adverbial clauses of this character are very common, and correspond to the conditional mood—employing the connectives *if*, *unless*, *except*, *&c.*, thus—

"If *I fall*, advance.

"I shall not go unless I am summoned."

103. *Concession.* Adverbial clauses of this character chiefly employ the connectives *though*, *although*, *yet*, *&c.*, as—

"*Though my life may* be *sacrificed*, yet will I persevere."

"*However gloomy the beginning may be,*
the end will be auspicious."

104. *Classification of connectives used for adverbial clauses.*

Time	Ever, whenever, always, as often as, while, as long as.
Place	Where, wherever, whither, whence.
Manner . . .	How, than, as, so, in that.
Comparison . .	As well as, as good as, as little as.
Cause, Effect .	Since, so that, in order to, in order that, with a view to, lest.
Condition . .	If, unless, except, in case.
Concession . .	Though, although, however.

105. We have seen in the last number that adjectival clauses, though in the same sentence, are not necessarily co-ordinate to each other; and similarly we find that two subordinate clauses may be adverbial, occur in the same sentence, and yet not be co-ordinate, unless precisely of the same character.

The following are Examples of Adverbial Clauses for Analysis.

"We inhabit vast deserts and pathless woods, where we do not want to hear the name of Alexander."

"That you may understand the genius of the Scythians, we present you with a yoke of oxen, an arrow, and a goblet."

"All this will not satisfy you, unless you lay your greedy and insatiable hands upon our flocks and our herds. How imprudent is your conduct? While you were subduing the Bactrians, the Sogdians revolted."

"Where opportunities of exercise are wanting, temperance may in a great measure supply its place. If exercise throws off all superfluities, temperance prevents them. If exercise clears the vessels, temperance neither satiates nor overstrains them."

"Sincerity is to speak as we think, to do as we pretend and profess, and to perform as we promise."

"If we have the kindness of others, we must endure their follies."

"Since it is certain that our hearts deceive us in the love of the world, though we every day wish ourselves disengaged from its allurements, let us wean ourselves from them, while we are in the midst of them."

"This decency, this grace, this propriety of manners to character, is so essential to princes in particular, that, whenever it is neglected, their virtues lose a great degree of lustre."

"If a strong attachment to a particular subject, a total ignorance of every other, an eagerness to introduce that subject upon all occasions, and a confirmed habit of declaiming upon it, without either wit or discretion, be the marks of a pedantic character, as they certainly are so, then it belongs to the illiterate as well as the learned."

"Pleasant the sun,
When first on this delightful land he spreads
His orient beams on herb, tree, fruit, or flower,
Glistering with dew."

"In that soft season, when descending showers
Call forth the greens, and wake the rising flowers,
When opening buds salute the welcome day,
And earth, relenting, feels the genial ray,
As balmy sleep had charmed my cares to rest,
And love itself was banished from my breast,
A train of phantoms, in wild order, rose,
And, joined, this intellectual scene compose."

"Know ye the land where the cypress and myrtle
Are emblems of deeds (that are done in their clime),
Where the rage of the vulture, the love of the turtle,
Now melt into sorrow, now madden to crime.
Know ye the land of the cedar and vine,
Where the flowers ever blossom, the beams ever shine."

"And thou hast walked about—how strange a story—
In Thebes' streets, three thousand years ago,
When the Memnonium was in all its glory,
And Time had not begun to overthrow
Those temples, palaces, and piles stupendous,
(Of which the very ruins are tremendous.)"

"Didst thou not hear the pother o'er thy head
When the great Persian conqueror Cambyses
Marched armies o'er thy tomb with thundering tread,
O'erthrew Osiris, Orus, Apis, Isis,
And shook the Pyramids with fear and wonder,
When the gigantic Memnon fell asunder."

"How many thousands of my poorest subjects
Are at this hour asleep! O gentle Sleep!
Nature's soft nurse!—how have I frighted thee,
That thou no more wilt weigh my eyelids down,
And steep my senses in forgetfulness?
Why rather, Sleep, liest thou in smoky cribs,
Upon uneasy pallets stretching thee,
And hushed with buzzing night-flies to thy slumber,
Than in the perfumed chambers of the great,
Under the canopies of costly state."

"Ah! since dark days still bring to light
Man's prudence, and man's fiery might,
Time may restore us in his course
Göethe's sage mind and Byron's force,
But where will Europe's latter hour
Again find Wordsworth's healing power?"

SPECIMEN FOR ANALYSIS OF COMPLEX ADVERBIAL SENTENCE.

If the army, when recovering, had remained where it was securely entrenched, it could still have retreated with honor, though it might never have gained another victory.

Distinguishing Letters.	CLAUSES.	KIND OF CLAUSES, AND THEIR RELATIONS TO EACH OTHER.	CONNECTIVES.	SUBJECT.		PREDICATE.					REMARKS.
							COMPLETION.				
				Enlargement of Subject.	Simple Subject.	Simple Predicate.	Object.	Attribute.	Extension of Predicate.	Kind of Extension.	
a.	If the army had remained	Adverbial Clause to *D:* conditional.	If the	...	army	had remained	...	...	(Clause *b*)—where, &c. (Clause *c*)—when, &c.	Adjunct of place. Adjunct of time.	
b.	where it was securely entrenched	Adverbial Clause to "remained:" *a:* place.	...	...	it	was entrenched	...	...	where securely	Adjunct of place. Adjunct of manner.	
c.	when (it was) recovering	Adverbial Clause to "remained:" *a:* time.	...	...	it	was recovering	...	...	when	Adjunct of time.	
D.	it could still have retreated with honor,	Principal Clause to *a* and *e.*	...	...	it	could have retreated	...	...	still with honor	Adjunct of time. Adjunct of manner.	
e.	though it might never have gained another victory.	Adverbial Clause to *D:* concessional.	though	...	it	might have gained ?	victory	another	never	Adjunct of time.	

MENTAL ARITHMETIC.

The following rules in this important subject will be found very useful for the upper classes. They will also enable the Teacher to construct exercises to be worked on slates, and supply him with a ready means of testing the correctness of the answers.

Rule of Squares.

I. When the number to be squared differs but little from 100, 1000, 10,000, &c.

Example.—96 squared $= 92 \times 100 + 4^2 = 9216$.

Proof.—This rule is derived from the formula:—

$$(a + b)(a - b) = a^2 - b^2$$

Then $(a + b)(a - b) + b^2 = a^2$.

Let $a = 96$.

$b = 4$, the difference between 96 and the convenient multiplier 100.

Then $a + b = 96 + 4 = 100$.

$a - b = 96 - 4 = 92$.

$(a + b)(a - b) = 100 \times 92 = 9200$.

$(a + b)(a - b) + b^2 = 9200 \div 16$.

$= 9216$.

Example.—Square 989.

Here we take 1000 one side of 989 and 978 on the other, the difference between each multiplier and 989 being 11. Then $978 \times 1000 + 11^2 = 978121$ is the square of 989. (The difference should not exceed 20.)

II. When the number is near 50, 500, 5000, &c.

Example—57 squared.

Here take 50 on one side, 64 one the other, difference 7.

Then $57^2 = 50 \times 64 + 7^2 = 3249$.

III. When the number is near any simple multiple of 10, as 700, 40, 3000, &c.

Example.—Square 391.

Here take 400 and 382, difference 9. $391^2 = 382 \times 400 + 9^2 = 152881$

Square of $65 = 60 \times 70 + 5^2 = 4225$.

Square of $73 = 76 \times 70 + 3^2 = 5329$.

IV. When the difference taken exceeeds 20.

First find the square of this difference by Rule III, and proceed as in Rule I.

Example.—Square 958.

Multipliers 1000 and 916, difference 42. By Rule III, 42 square $= 40 \times 44 + 2^2 = 1764$.

Therefore $958^2 = 1000 \times 916 + 1764 = 917764$.

Multiplication and Division by special numbers.

1. *By* 25. Multiplication. Add two ciphers and divide by 4 Or, what is better for children, divide by 4, and call the result. hundreds; if one is over call it 25, if two 50, if three 75.

Example.—$64 \times 25 = 64 \div 4 = 16$ hundreds. $975 \times 25 = 975 \div 4 = 243 + 3 = 243$ hundreds and $75 = 24375$.

Division. Multiply by 4 and cut off two decimal places.

Example.—$284150 \div 25 = 284150 \times 4 = 11366{\cdot}00$

$7491 \div 25 = 7491 \times 4 = 299{\cdot}64.$

2. *By* 125. Multiplication. Affix three ciphers and divide by 8.

Example.—$928 \times 125 = 928000 \div 8 = 116000$

$2951 \times 125 = 2951000 \div 8 = 368875$

Or divide by 8, call it thousands, and multiply the remainder by 125.

Thus $2967 \times 125 = 370$ thousands $+ 7 \times 125 = 370875.$

Division. Multiply by 8 and cut off three decimal places.

Example.—$29846 \div 125 = 29846 \times 8 = 238{\cdot}768.$

3. *By* 625. Multiplication. Affix four ciphers and divide by 16.

Example.—$3964 \times 625 = 39640000 \div 16 = 2477500.$

Division. Multiply by 16 and cut off four decimal places.

Example.—$39486251 \div 625 = 39486251 \div 16 = 63178{\cdot}0016.$

4. *By* $12\frac{1}{2}$. Multiplication. Affix two ciphers and divide by 8.

$2948 \times 12\frac{1}{2} = 294800 \div 8 = 36850.$

Division. Multiply by 8 and cut off two decimal places.

Example.—$3146 \div 12\frac{1}{2} = 3146 \times 8 = 251{\cdot}68.$

TO FIND THE PRODUCT OF TWO NUMBERS WHOSE DIFFERENCE IS NOT VERY GREAT.

When the mean of the two numbers can be easily squared.

Square the mean and from this subtract the square of the difference.

Example.—$48 \times 52.$ Mean $= 50$, difference 2.

$48 \times 52 = 50^2 - 2^2 = 2500 - 4 = 2496.$

$108 \times 92 = 100^2 - 8^2 = 10{,}000 - 64 = 9936.$

$62 \times 74 = 68^2 - 6^2.$ By Rule of Squares 68 squared $= 4624.$ $4624 - 36 = 4588.$

Proof.—Let $a =$ the mean, $b =$ the difference.

$$62 = (a - b) \qquad 74 = (a + b)$$

$$62 \times 74 = (a - b)(a + b) = a^2 - b^2, \text{ i.e., } 6^2 - 6^2.$$

GEOLOGY.

Wherever we look, we find wonders to attract an inquiring mind. The starry firmament above, and the nude or beautifully clothed earth beneath, equally display the wisdom and the mystery to be observed in the world of matter.

> "'Tis sweet to muse upon his skill displayed,
> (Infinite skill) in all that he has made!"

And thus musing, we may pass the happiest time of our lives.

> Wherefore, for virtue's sake,
> I can be well content,
> The sweetest times of all my life
> To deem in *thinking* spent.
>
> (LORD VAUX, 1540.)

We may view the abode which has been provided for us by the wisdom of our heavenly Father, in three different aspects, which will be found equally interesting, and affording any amount of food for thought and speculation.

If we contemplate the globe as a member of the celestial sphere, and of the solar system, we are led on into the study of astronomy. If we regard it as to its superficial appearance, we enter upon the interesting study of geography. And if we pay attention to its internal structure, we are commencing a course of thought which, if followed out, will lead us to a knowledge of all that the science of geology has been able to unfold.

The earth is generally regarded as the most durable and stable of all objects. The "everlasting hills" are spoken of as if no change ever came to them. The earth is commonly thought of as immovable, the mountains as unchangeable; and in one aspect this is correct; that is, when we think of these things in connection with our own fickle being, and our own short duration of experience. But there is a more correct view to be had by the light of science, which will enlarge our minds and expand our hearts, if we can, even in a small degree, attain it. By this expansion of the mind we may look nature through, and find that

'Tis revolution all;
All change, no death; day follows night and night
The dying day; stars rise and set, and set and rise;
Earth takes the example. See the Summer gay,
With her green chaplet and ambrosial flowers
Droops into pallid Autumn: Winter grey,
Horrid with frost and turbulent with storm,
Blows Autumn and his golden fruits away;
Then melts into the Spring; soft Spring with breath
Favonian, from warm chambers of the south,
Recalls the first. All to reflourish fades;
As in a wheel, all sinks to reascend.

Taking this view of the habitation which has been assigned to us, it affords us a profitable subject of thought in the contemplation of those changes which are to be seen to be taking place in the configuration of the earth's surface, and in the investigation into the causes of such change. This leads us immediately to the science of Geology.

Geology is the science which investigates the successive changes that have taken place in the organic and inorganic kingdoms of nature: it inquires into the causes of these changes, and the influence which they have exerted in modifying the surface and external structure of our planet. By our researches into the state of the earth and its inhabitants at former periods, we acquire a more perfect knowledge of its present condition, and more comprehensive views concerning the laws now governing its animate and inanimate productions. When we study history, we obtain a more profound insight into human nature by a comparison of the present and former states of society. We trace a long series of events which have gradually led to the state of affairs existing in our own day; and by connecting events with their causes, we are enabled to classify and retain in the memory a multitude of complicated relations;—the various peculiarities of of national character, the different degrees of moral and intellectual refinement, and numerous other circumstances which, without historical associations, would be uninteresting or imperfectly understood.

As the present condition of nations is the result of many changes which have taken place in time past, some at a very remote period and some at a comparatively recent one, some having taken place by imperceptible degrees, and others suddenly and violently; so the state of the natural world is the result of a long succession of events; and if we wish to enlarge our experience of the present state of the earth, we must investigate those effects which have resulted from the operations of former epochs.

As in the chronicles of nations we may observe how the result of a battle has often exercised an influence on the fate of millions of our contemporaries; so by inquiry into the history of our globe we shall be astonished by observing the links which connect its present state with its former condition. Ge.

(To be continued.)

HOW TO WRITE AN OFFICIAL LETTER.

(Continued from page 199.)

Before proceeding to give examples of other official letters, let us forward to its destination that already written. In the first place, it will require to be *folded.* There is a right way to fold a letter, and an innumerable number of wrong ones. The general rule for folding a letter is to make as few folds as possible, and to have *no cross folds.* Supposing we have a foolscap sheet to fold, first turn the bottom edge upwards to the top edge, taking care that both edges exactly coincide; then after drawing the thumb smartly across the fold, double the sheet again in the same way. By this plan, the sheet when folded seems divided into four exactly similar parts. The advantages of this plan are that when placed in the envelope the letter is of even thickness throughout, that it is easily and rapidly unfolded, and that its appearance is not spoiled. Numerous, irregular, and cross foldings give an appearance of great vulgarity to a letter; they prevent it from lying evenly in the envelope; and they cause much trouble and loss of time in unfolding. A person of education on receiving a badly folded, crumpled letter, must of necessity think his correspondent ignorant, if not ill-bred, and be indisposed to regard any request he may make with favour.

If a letter has been properly folded, there will be no trouble in placing it neatly in the envelope, but care must be taken to insert first, not the edges, but the fold. Adhesive envelopes are now so common that we cannot err in supposing our letter to be sent in an envelope of this kind. If the envelope be large enough, the only other point demanding attention is the "sealing" as the closing up is still called. Some persons are so thoughtless in this particular that the envelope connot be opened without tearing the letter which thus becomes defaced, and remains a monument of the sender's want of care. Others apply such a quantity of gum that opening the envelope becomes a serious business, to be accomplished only by the aid of knives or scissors, while in some instances the letters are found not to be sealed at all. Cases have even happened within the knowledge of the writer, in which the envelope has been carefully sealed and posted with no letter in it.

The *address* is the next point. This should be fairly placed on the face of the envelope, should be sufficiently full, and should include the *post town*. An address sprawling all over the envelope, or huddled into one corner, is difficult to read and gives to the letter an indescribable stamp of vulgarity that offends the eye of a person of taste and education. Some persons are so lost to all sense of propriety as to write the address upside down; but these are hopeless subjects as regards letter writing.

Lastly, a sufficient number of postage stamps to pay the postage should be carefully affixed. Nothing can excuse the impertinence which leads a person to neglect this essential point of good sense and good breeding. A meet but insufficient punishment is to have the letter returned. A little care in attending to these minutiæ will prevent the occurrence of mistakes and will save the writer from being considered a plague by his friends and correspondents.

Returning to our models, we now give an example of a letter communicating information in accordance with a fixed rule.

Mr. T. Tawse, to the Inspector of Schools, notifying commencement of duty.

Public School,
Floggee Floggee, Menindie,
27th July, 1868.

Sir,

In compliance with the provisions of Article 41 *of the Regulations of the Council of Education, I do myself the honor to acquaint you that I entered upon my duties as Teacher of this School, on Saturday the 25th July, instant.*

I have the honor to be,
Sir,
Your most obedient Servant,
THOMAS TAWSE,
Teacher.

To
The Inspector of Schools,
Fort Bourke.

Both the docket and the letter are susceptible of great variety in the treatment. The former may be shortened into "Notification of commencement of duty;" the latter may be amplified in different ways, but in every form the letter must contain the essential statement "I entered upon my duties on the 25th instant."

Let us now suppose that a Teacher considers it necessary to inform the Council of Education that the attendance of pupils at his School had fallen below the required minimum. His course would probably be something like the following. He would first form a clear and distinct conception of the fact to be communicated; and secondly, would ascertain what circumstances could be stated in explanation.

The *notes* of his letter would then stand thus:—

1. Fact: *Decrease of attendance.*
2. Reasons: *Sickness.*
Rain.
Farm labour.

The following is a specimen of the mode in which such a letter might be written.

Mr. T. Tawse, to the Secretary, Council of Education, reporting diminished attendance of pupils at Floggee Floggee Public School.

Public School,
Floggee Floggee, Menindie,
1st September, 1868.

Sir,

I have the honor to acquaint you, for the information of the Council of Education, that the average daily attendance of pupils in the Floggee Floggee Public School during the month ending 31*st August last, amounted to* 25.4 *only.*

2. *In explanation of this fact, I beg to state that sickness has been very prevalent in this locality, and that, in consequence, a considerable number of pupils have been unable to attend school for several weeks past.*

3. *A few children were also prevented from attending school by the heavy rain which fell during the early part of the month, and which rendered the roads and creeks in the vicinity impassable.*

4. *Further, many of the elder pupils have been kept at home by their parents to assist in field labour, their services being indispensable at this season.*

5. *The correctness of these statements is attested by the Chairman of the Public School Board who, for that purpose, has attached his signature to this letter.*

6. *It will, I trust, be evident to the Council from the foregoing explanations, that the decrease in the attendance of pupils will be but temporary, and that it was not occasioned by any fault or neglect on my part.*

I have the honor to be,
Sir,
Your most obedient Servant,
THOMAS TAWSE,
Teacher.

The Secretary,
Council of Education,
Sydney.

(To be continued.)

LIFE OR DEATH.

WE often hear it said to the sick, "keep up your spirits." Now there is more true philosophy in this than is generally supposed. The action of the mind has a wonderful effect on the physical powers, either disposing them to inaction, which renders them a prey to the inroads of disease, or nerving them to such vigorous activity as to support, what otherwise might be, a failing system, until such antidotes as are capable of counteracting the course of decay, have time to perform their natural and beneficial operations. Many a valuable life is lost through giving way to illusions and fancies leading to an expectation of death, forebodings having no other real foundation than the lowness of spirits which it is the nature of the malady to produce, or the accidental occurrence of particular incidents to which weakly persons give a fatal misinterpretation. The writer of these observations was once at so low an ebb that his medical attendant felt it his duty to intimate to his wife, that it was time for him to settle his affairs, as there was but little hope of recovery. Fortunately the following extract from an article taken from the *Quarterly Review*, was brought under his notice. The happy thought occurred to him—"If such be the influence the exercise of the mind has over the body, why should I not exert it beneficially: may I not reverse this picture, and determine to live for the sake of my family that need my support?" The recovery was surprisingly rapid, and others who were in a precarious state at the same time, were, through the encouragement which this incident afforded, led to HOPE, and to reap the happy reward.

Circumstances, which at another time would excite no attention, are accepted for an omen of death when health is failing. The order for the Requiem with Mozart, the dream with Flechier, turned the current of their thoughts to the grave. The death of a contemporary, which raises no fears in the young and vigorous, is often regarded by the old and feeble as a summons to themselves. Foote, prior to his departure for the Continent, stood contemplating the portrait of a brother-actor, and exclaimed, his eyes full of tears, "Poor Weston!" In the same dejected tone he added, after a pause, "Soon others shall say, Poor Foote!" and, to the surprise of his friends, a few days proved the justice of the prognostication. The expectation of the event has a share in producing it; for a slight shock completes the destruction of prostrate energies. Many an idle belief in superstitious times lent a stimulus to disease, and pushed into the grave those who happened to be trembling on its brink. Kings and princes took the shows of the skies for their particular share. Louise of Savoy, the mother of Francis I., when sick of a fever, saw, or fancied she saw, a comet. "Ha," she exclaimed, "there is an omen which appears not for people of low degree. God sends it for us great. Shut the window; it announces my death; I must prepare." Her physicians assured her she was not in a dying state. "Unless," she replied, "I had seen the sign of my death, I should have said the same; for I do not myself feel that I am sinking." She sank, however, from that time, and died in three days. Confidence in the physician is proverbially said to be half the cure, because it keeps up hope, and lends to the body the support of the mind; but, when despair co-operates with the distemper, they re-act upon one another, and a curable complaint is easily converted into a mortal disease. The case of Wolsey was more singular. The morning before he died he asked Cavendish the hour, and was answered past eight. "Eight of the clock," replied Wolsey, "that cannot be—eight of the clock, eight of the clock—nay, nay, it cannot be eight of the clock; for by eight of the clock shall you lose your master." The day he miscalculated; the hour came true. On the following morning, as the clock struck eight, his troubled spirit passed away. John Hunter intimated, on leaving home, that if a discussion, which awaited him at the Hospital, took an angry turn, it would prove his death. A colleague gave him the lie; the coarse word verified the prophecy, and he expired almost immediately in an adjoining room. There was everything to lament in the circumstance, but nothing at which to wonder, except that any individual could show such disrespect to the great genius, a single year of whose existence was worth the united lives of his opponents. Hunter, in uttering the prediction, had only to take counsel of his own experience without the intervention of invisible spirits. He had long laboured under a disease of the heart, and he felt the disorder had reached the point at which any sharp agitation would bring on the crisis. A memorable instance of the weakness which accompanies the greatness of man, when an abusive apellation could extinguish one of the brightest lights that ever illumined science. No discoverer has left more varied titles to fame, and none has given more abundant evidence that he would have added to the number the longer he lived; for his mind teemed with original ideas, and fast as one crop was cleared away another sprang up.

Persons in health have died from the expectation of dying. It was once common for those who perished by violence to summon their destroyers to appear within a stated time before the tribunal of God; and we have many perfectly attested instances in which, through the united influence of fear and remorse, the perpetrators withered under the curse and died. Pestilence does not kill with the rapidity of terror. The Princess Gonzaga of Cleves, and some other persons, took it into their heads for a jest to visit by night a lady with whom they were acquainted, and exhort her as a person who was visibly dying. While, in the performance of their heartless scheme, they whispered to each other, "She is just departing," she departed in earnest. Her vigour, instead of detecting the trick, sank beneath the alarm, and the visitors discovered in the midst of their sport that they were making merry with a corpse. A condemned gentleman was handed over to some French physicians, who, to try the effects of imagination, told him that it was intended to despatch him by bleeding—the easiest method known to their art. Covering his face with a cloth, they pinched him to counterfeit the prick of the lancet, placed his feet in a bath, as if to encourage the stream, and conversed together on the tragic symptoms supposed to arise. Without the loss of a drop of blood, his spirit died within him from the mental impression; and when the veil was raised he had ceased to live. Montaigne tells of a man who was pardoned upon the scaffold, and was found to have expired while awaiting the stroke. Cardinal Richelieu, in the hope to extract a confession from the Chevalier de Jars, had him brought to the block; and, though he comported himself with extraordinary courage and cheerfulness, yet when, an instant or two after he had laid down his head, his pardon was announced to him, he was in a state of stupefaction, which lasted several minutes. In spite of his apparent indifference to death, there was an anxiety in the pause when he was momentarily expecting the axe to descend, which had all but proved fatal.

HINTS FOR STUDENTS.

(We shall give, from time to time, a few Elegant Extracts from some of the standard English authors, hoping they will be found useful by those of our readers who have entered on the path of self-improvement.)

On the Entrance to Knowledge.

Knowledge will not be won without pains and application: some parts of it are easier, some more difficult of access: we must proceed at once by sap and battery; and when the breach is practicable, you have nothing to do, but to press boldly on, and enter: it is troublesome and deep digging for pure waters, but when once you come to the spring, they rise and meet you: the entrance into knowlege is oftentimes very narrow, dark, and tiresome, but the rooms are spacious, and gloriously furnished; the country is admirable, and every prospect entertaining. You need not wonder that fine countries have straight avenues, when the regions of happiness, like those of knowledge, are impervious and shut to lazy travellers; and the way to heaven itself is narrow.

Common things are easily attained, and nobody values what lies in everybody's way: what is excellent is placed out of ordinary reach, and you will easily be persuaded to put forth your hand to the utmost stretch, and reach whatever you aspire at.

Felton.

The best Authors to be read several times over.

I cannot but here repeat what I said before, of the advantage of reading the best authors several times over. There must needs be pleasure and improvement in a repetition of such writers as have fresh beauties in every section, and new wonders arising in every new page.

One superficial reading exhausts the small stores of a superficial writer, but the genuine ancients, and those who write with their spirit and after their pattern, are deep and full. An ill-written loose book is like a formal commonplace fop, who has a set of phrases and stories, which in a conversation or two are all run over; the man quickly impoverishes himself, and in a few hours becomes perfectly dry and insipid. But the old Classics, and their genuine followers among the moderns, are like a rich natural genius, who has an unfailing supply of good sense on all occasions; and gratifies his company with a perpetual and charming variety.

Blackwall.

Advice to Readers.

Whoever reads a perfect or finished composition, whatever be the language, whatever the subject, should read it, even if alone, both audibly and distinctly.

In a composition of this character, not only precise words are admitted, but words metaphorical and ornamental. And farther, as every sentence contains a latent harmony, so is that harmony derived from the rhythm of its constituent parts.

A composition then like this, should (as I said before) be read both distinctly and audibly; with due regard to stops and pauses; with occasional elevations and depressions of the voice, and whatever else constitutes just and accurate pronunciation. He who, despising or neglecting, or knowing nothing of all this, reads a work of such character as he would read a sessions-paper, will not only miss many beauties of the style, but will probably miss (which is worse) a large proportion of the sense.

Harris.

When the Habit is once gained, nothing so easy as Practice.

There is another objection still.—These speculations may be called minutiæ; things partaking at best more of the elegant than of the solid; and attended with difficulties beyond the value of the labour.

To answer this, it may be observed, that when habit is once gained, nothing so easy as practice. When the ear is once habituated to these verbal rhythms, it forms them spontaneously, without attention or labour. If we call for instances, what more easy to every smith, to every carpenter, to every common mechanic, than the several energies of their proper arts? How little do even the rigid laws of verse obstruct a genius truly poetic? How little did they cramp a Milton, a Dryden, or a Pope? Cicero writes that Antipater the Sidonian could pour forth Hexameters extempore, and that, whenever he chose to versify, words followed him of course. We may add to Antipater the ancient Rhapsodists of the Greeks, and the modern improvisatori of the Italians. If this then be practicable in verse, how much more so in prose? In prose, the laws of which so far differ from those of poetry, that we can at any time relax them as we find expedient? Nay more, where to relax them is not only expedient, but even necessary, because, though numerous composition may be a requisite, yet regularly returning rhythm is a thing we should avoid.

Ibid.

Advice to a Beginner in the Art of Criticism.

If I might advise a beginner in this elegant pursuit, it should be, as far as possible, to recur for principles to the most plain and simple truths, and to extend every theorem, as he advances, to its utmost latitude, so as to make it suit and include the greatest number of possible cases.

I would advise him farther, to avoid subtle and far-fetched refinement, which as it is for the most part adverse to perspicuity and truth, may serve to make an able Sophist, but never an able Critic.

A word more—I would advise a young Critic, in his contemplations, to turn his eye rather to the praiseworthy than the blameable; that is, to investigate the cause of praise, rather than the causes of blame. For though an uninformed beginner may, in a single instance, happen to blame properly, it is more than probable that in the next he may fail, and incur the censure passed upon the criticising cobbler, *Ne sutor ultra crepidam.*

Ibid.

After the student has formed his judgment by reading and observation he may then, and not till then, attempt to write.

On Diction.

As every sentiment must be expressed by words; the theory of sentiment naturally leads to that of Diction. Indeed the connection between them is so intimate, that the same sentiment, where the diction differs, is as different in appearance as the same person dressed like a peasant or dressed like a gentleman. And hence we see how much diction merits a serious attention.

But this perhaps will be better understood by an example. Take then the following:—"Don't let a lucky hit slip; if you do, be like you mayn't any more get at it." The sentiment (we must confess) is expressed clearly, but the diction surely is rather vulgar and low. Take it another way—"Opportune moments are few and fleeting; seize them with avidity, or your progression will be impeded." Here the diction, though not low, is rather obscure, the words are unusual, pedantic, and affected. But what says Shakespeare?

> There is a tide in the affairs of men,
> Which, taken at the flood, leads on to fortune;
> Omitted, all the voyage of their life
> Is bound in shallows—

Here the diction is elegant, without being vulgar or affected; the words, though common, being taken under a metaphor, are so far estranged by this metaphorical use, that they acquire, through the change, a competent dignity, and yet, without becoming vulgar, remain intelligible and clear.

Ibid.

On Accuracy.

There is another character left, which, though foreign to the present purpose, I venture to mention; and that is the character of Accuracy. Every work ought to be as accurate as possible. And yet, though this apply to works of every kind, there is a difference whether the work be great or small. In greater works (such as histories, epic poems, and the like) their very magnitude excuses incidental defects; and their authors, according to Horace, may be allowed to slumber. It is otherwise in smaller works, for the very reason that they are smaller. Such, through every part, both in sentiment and diction, should be perspicuous, pure, simple, and precise.

Ibid.

RUDIMENTS OF LATIN.

EXERCISES IN LESSON I.

5. The water is clear. The girl is small. The table is broad. It is the good lady. The wing is white. The beard is black. The bean is very large. The wax is very good. The cause is very bad. The queen's daughter. The good queen's daughter. It is the good queen's daughter. The good queen's daughter is beautiful. It is the good queen's beautiful daughter. The black she-wolf is hidden. The she-wolf is a wild beast. The island is very small. The cheek of the excellent queen's beautiful daughter is red. The deep water is clear. The lady is praised.

6. Rosa est rubra. Domina est pulchra. Celata est gloria. Eva prima femina est. Prima penna nigra est. Prima penna columbæ alba est. Cera lutea optima est. Optima est reginæ filia. Sanata est domina. Aqua cœrulea clara est. Ara lata est. Regina est egregia femina. Magna cura est. Insula est magna. Magna insula longa est. Parva insula augusta est. Filia pulchra bonæ dominæ sanata est. Alba columba dominæ egregiæ celata est. Est lupa nigra. Est parva filia feminæ nigræ.

LESSON II.

The case which answers to the Objective in English, is called the *Accusative* in Latin. But it must be borne in mind as an essential difference between English and Latin, that, in the latter language, some transitive verbs and prepositions do not govern the accusative case.

By adding *m* to the words contained in the first vocabulary, the nominative will be converted into the accusative case: *e. g.*

Nominative.	*Accusative.*
Ala	Alam
Ara	Aram
Alta	Altam.

VOCABULARY.

Ædificat, *he builds.*
Amat, *he loves.*
Arat, *he ploughs.*
Comparat, *he prepares.*
Creat, *he creates.*
Cruciat, *he torments.*
Culpat, *he blames.*
Damnat, *he condemns.*
Dat, *he gives.*
Delectat, *he pleases.*
Excitat, *he rouses.*
Fatigat, *he tires.*
Fraudat, *he defrauds.*
Irrītat, *he irritates.*
Laudat, *he praises.*
Liberat, *he sets free.*
Monstrat, *he points out.*
Oppugnat, *he attacks.*
Portat, *he carries.*

ACCIDENCE.

Each of the foregoing words is a verb of the third person, singular number, present tense, and indicative mood. Each, it may be observed, terminates with the letter "t" which is the distinctive mark of the third person singular. The reader should further notice that no Latin pronoun is expressed, and, according to the context, the word "amat" may signify "he loves," "she loves," or "it loves." The personal pronouns in the nominative case are seldom expressed in Latin unless when required for the purpose of emphasis, the termination of the verb being a sufficient indication of the number and person of the nominative.

In a simple Latin sentence, the usual order of the words is Nominative, Accusative, and Verb, or—to use the phraseology of Analysis—Subject, Completion, Simple Predicate. But as in general it is impossible to mistake the nominative for the accusative, any arrangement may be adopted that the writer may deem appropriate. As a rule, the most emphatic word should be placed *first* or *last* in the sentence.

EXAMPLES.

The words in the following sentence may be arranged in a variety of ways: *e. g.*

Domina filiam amat: *The lady loves her daughter.*
Domina amat filiam.
Filiam domina amat.
Filam amat domina.
Amat domina filiam.
Amat filiam domina.

The first may be considered the most usual order.

EXERCISES.

7. Write the accusative case of all the words in Vocabulary I.
8. Construct thirty sentences on the model *Regina aram ædificat*, the Queen builds an altar.
9. Render into English—

Lupam nigram puella irrītat. Regina bonam dominam laudat. Parva puella feram liberat. Bonam dominam regina mala damnat. Lupa magna parvam puellam oppugnat. Pulchra puella columbam albam reginæ monstrat. Femina parvam filiam bonæ reginæ culpat. Domina egregia genam rubram filiæ pulchræ laudat. Columba lutea puellam delectat. Femina mala lupam maximam excitat.

LESSON III.

In English, *gender* denotes the distinction of sex; but in Latin this definition does not apply. The name of an inanimate object is as likely to be masculine or feminine, as it is to be neuter. To a considerable extent the termination of a word will indicate its gender. For example, all the nouns and adjectives previously given have "a" for their termination, and they are feminine. In the following vocabulary the words end in "us" and are masculine.

VOCABULARY.

Mūrus, *a wall.*
Annus, *a year.*
Annŭlus, *a ring.*
Hĕrus, *an owner or master.*
Beatus, *blessed.*
Certus, *sure.*
Decimus, *tenth.*
Dominus, *lord.*
Bŏnus, *good.*
Mălus, *bad.*
Magnus, *great.*
Parvus, *little.*
Albus, *white.*
Altus, *high.*
Profundus, *deep.*
Lātus, *broad.*
Angustus, *narrow.*
Longus, *long.*
Dīvīnus, *divine.*
Lūteus, *yellow.*
Asĭnus *an ass.*
Campus, *a field.*
Ocŭlus, *an eye.*
Lacertus, *an arm.*
Multus, *much.*
Numerus, *number.*
Populus, *people.*
Unus, *one.*
Cœrŭleus, *blue.*
Mīrus, *wonderful.*
Plēnus, *full.*
Egrĕgius, *excellent.*
Clārus, *clear.*
Prīmus, *first.*
Sĕcundus, *second.*
Tertius, *third.*
Ultĭmus, *last.*
Optimus, *best, or very good.*
Pessimus, *worst, or very bad.*
Maximus, *greatest, or very large.*
Glădĭus, *a sword.*
Taurus, *a bull.*
Agnus, *a lamb.*
Flŭvĭus, *a river.*
Hortus, *a garden.*
Lŭpus, *a wolf.*
Ramus, *branch.*
Timidus, *timid.*
Venustus, *pretty.*
Justus, *just.*
Minimus, *least, or very small.*
Suprēmus, *highest.*
Infimus, *low.*
Amātus, *loved.*
Ornātus, *adorned.*
Laudātus, *praised.*
Culpātus, *blamed.*
Celātus, *hidden.*
Vulnerātus, *wounded.*
Sanātus, *healed.*
Novus, *new.*

ACCIDENCE.

By substituting "m" for "s" in the termination of the foregoing words, we convert the Nominative into the Accusative. For example—

Asinus; take away s, Asinu; add m, Asinum.

It will be inferred from what has been said, that the termination "m" in nouns and adjectives denotes the accusative case.

EXAMPLES.

Lupus taurum cruciat, *the wolf torments the bull.* Herus murum altum ædificat, *the master builds a high wall.* Herus egregius campum latum arat, *the excellent master ploughs the broad field.*

EXERCISES.

10. Write the accusative case of all the words in Vocabulary III.

11. Give the Latin for—

The slave (*servus*) defrauds his excellent master. The lord gives a small garden. The third slave prepares the ass. The white lamb loves the pretty girl. The pretty girl loves the white lamb. It is a great wolf. There is a timid lamb. The master shows his long sword. It is the first year. The good slave praises the narrow gate.

LESSON IV.

VOCABULARY.

Gĕner, *a son-in-law.*
Līber, *Bacchus.*
Sŏcer, *a father-in-law.*
Armĭger, *an armour-bearer.*
Lucĭfer, *the day-star.*
Presbyter, *an elder.*
Vesper, *the evening.*
Puer, *a boy.*
Mĭser, *wretched.*
Tĕner, *tender.*
Asper, *rough.*
Līber, *free.*
Dexter, *on the right hand; lucky.*
Pōmĭfer, *fruit-bearing.*
Ager, *a field.*
Aper, *a boar.*
Arbĭter, *an umpire.*
Auster, *the south-west wind.*
Făber, *a smith.*
Măgister, *a master.*
Minister, *a servant.*
Liber, *a book.*
Nĭger, *black.*
Ater, *black.*
Săcer, *sacred.*
Rŭber, *red.*
Sĭnister, *on the left hand; unlucky.*
Pulcher, *beautiful.*
Æger, *sick.*
Văfer, *cunning.*
Noster, *our.*
Vester, *your.*

ACCIDENCE.

The accusative of the first fourteen of these words is formed by adding the syllable "um," as nom. *Puer*, acc. *Puerum.* In the remainder the "e" in the last syllable is omitted, as nom. *Niger*, acc. *Nigrum, not Nigerum.*

EXAMPLES.

Armiger gladium portat, *the armour-bearer carries the sword.* Bonus herus miserum servum liberat, *the good master sets his wretched slave free.*

EXERCISES.

12. Write the accusative of the words in Vocabulary IV.

13. Give the English of—

Taurus asper lupum nigrum cruciat. Bonus minister campum arat. Lupus vafer agnum timidum culpat. Magister servum malum damnat. Armiger vulneratus est. Armiger sanatus est. Socer dominæ venustæ æger est. Auster est asper. Asinus vafer celatus est. Servus campum decimum arat. Faber filiam venustam amat. Parvus hortus angustus est. Lupa rubra taurum nigrum irrītat. Noster campus longus est. Gener reginæ filiam dominæ pulchræ amat. Parvus asinus asperum agrum arat.

LESSON V.

VOCABULARY.

Arvum, *a field.*
Dōnum, *a gift.*
Ævum, *an age,*
Regnum, *a kingdom.*
Sceptrum, *a sceptre.*
Bŏnum, *a blessing.*
Mălum, *a misfortune.*
Sacrum, *sacred.*
Scamnum, *a bench.*
Pōcŭlum, *a cup.*
Rŏsētum, *a rose-bed*
Amatum, *loved.*

VOCABULARY.

Misĕrum, *wretched.*
Tenĕrum, *tender.*
Pomifĕrum, *fruit-bearing.*
Nigrum, *black.*
Vestrum, *your.*
Bonum, *good.*
Malum, *bad.*
Optimum, *best, or very good.*
Laudatum, *praised.*
Vulneratum, *wounded.*
Sanatum, *healed.*
Vinum, *wine.*

ACCIDENCE.

All these words are of the *neuter* gender. The nominative and accusative cases are alike. The genitive case of the words before given that end in "us" and "um," is formed by taking away these terminations and adding "i," thus—

Nominative.	*Genitive.*
Domin-us	Domin-i
Arv-um	Arv-i.

The words ending in "er" form their genitive thus—

Pu-er	Pu-er-i
Ma-gis-ter	Ma-gis-tri.

EXERCISES.

Oculus magistri, *the master's eye.*
Gladius armigeri, *the armour-bearer's sword.*
Regni sceptrum, *the sceptre of the kingdom.*
Filia heri, *the master's daughter.*

EXERCISES.

14. Write out the genitive cases of all the words ending in *us, um,* and *er.*

15. Translate into Latin—

The bull has (*habet*) one eye. The bull's eye is black. The black-smith has a pretty white dove. The boy is loved. The good lady is praised. The queen's timid dove is wounded. The second girl's rosebed is full. The smith's little cup is full. The bad slave tires the wounded ass. The lady's servant defrauds the master's father-in-law. The tender maid does not love (*non amat*) the master's wine. The sick woman's son carries the sacred dove. The queen's little garden delights the smith's son. The rough wolf attacks the white lamb. Great Bacchus gives good wine. The boy points out the day star. The wild boar is wounded. The excellent umpire is just. The kingdom is large. The queen's son-in-law has a large kingdom. The first slave ploughs the lady's son-in-law's field.

16. Give the English for—

Bonus puer est amatus. Primus est puer; puella, secunda. Noster servus longum scamnum portat. Justus est arbiter. Alba reginæ columba vulnerata est. Ægri filius servi herum amat. Ramus secundus est longus. Minister timidam parvam filiam magistri portat. Magister parvum reginæ donum laudat. Magnum fabri poculum est celatum.

GEOGRAPHY OF AUSTRALIA.

LESSON I.—PROGRESS OF DISCOVERY.

In teaching Geography, there is no better way of getting the names of places fixed on the memory, than by associating them with historical or other interesting incidents. We shall, therefore, commence this subject by noticing the progress of discovery.

After the discovery of America by Columbus on behalf of Spain, the Portuguese, then a great maritime people, sent their most enterprising navigators southward, making discoveries along the west coast of Africa, until the Cape of Good Hope was rounded, when they pushed across the Indian Ocean and found a passage by sea to the East Indies. This latter feat was accomplished by Vasco de Gama in 1497. But the Spaniards having established themselves in Mexico and Peru, pushed on their discoveries to the Philippine and Molucca Islands, and opened up a trade with them. Intent on further discoveries, the Spanish Government sent out Pedro Fernandez de Quiros, and Luis Vaez de Torres in 1605, with two ships. They kept together until they discovered Espiritu Santo, and other Islands in the New Hebrides group. Here they separated, and Torres sailed along the southern coast of New Guinea. In his course westward he passed through the Strait, since called after him—Torres Strait, when he saw the northern extremity of the Continent of Australia, Cape York, in 1606, but only regarded it as one of the group through which he had passed in his voyage. Torres, however, was not the first European Navigator that saw the Island Continent on which we live. The people of Holland, who were now growing up to be a very powerful maritime nation, so successfully competed with the Spaniards and Portuguese as to engross the grearer part of the trade, and to make themselves masters of most of the Islands in the Indian Archipelago, leaving the Spaniards little more than the Philippine Islands, which they still retain. The Dutch being anxious to secure their position, and to extend their commerce, formed settlements in Sumatra and Java, whence various exploring expeditions were sent out. In 1605, Duyfen was sent out from Bantam in Java, to explore the Coast of New Guinea. On his return from his expedition, he fell in with the Continent of Australia, in March 1606, a little south of Endeavour Strait. This was a few months before Torres passed through the Strait called by his name. In 1616, Theodore Hertoge, during a voyage from Europe to Batavia, fell in with the Country between 28 degs. and the Tropic of Capricorn, and called it Endracht's Land, (Country of Concord.) In 1618, the coast from 11 degs. to 15 degs. south lat. was discovered by Zeachen. The country between the Gulf of Carpentaria and Cambridge Gulf he called Arnhem's Land; and the country west of that—Van Diemen's Land. The following year, Von Edels, on his voyage from Europe to Batavia, fell in with the western country about 30 degs. south lat., and gave it his name. In the same way Cape Leeuwin was discovered in 1622, and called after the ship in which the discovery was made. In 1627, Peter Van Nuyt sailed on a voyage of discovery along the southern coast, nearly as far as Spencer's Gulf. About this time the coast opposite Dampier's Archipelago was explored by De Witt, whose name was given to that part of the country. By this time the survey of the Gulf of Carpentaria was completed by general Peter Carpenter, whose name it bears. Thus, in 22 years the half of this Continent was discovered by the Dutch, and called by them New Holland. In 1642, the Governor General of Batavia sent Anthony Von Tasman on a voyage of discovery. This great navigator discovered Tasmania the same year, and called it after his patron, Van Dieman's Land. Thinking it was a part of New Holland, he sailed eastward and discovered New Zealand, at Murderer's or Massacre Bay, where some of his men were killed. Directing his course northward he discovered the Friendly Islands, Rotardam Island, and several others, in 1643. He passed the coast of New Guinea and returned to Batavia, being of opinion that lands he discovered were parts of the Continent.

We now come to the period of the English discoveries in these seas. William Dampier, a bold English navigator, in command of a privateer vessel, intent on making prizes of Spanish ships, (England being at war with Spain) sailed round Cape Horn, passed along the coast of Chili, Peru and Mexico, taking many of the richly laden Spanish vessels as he went along. Then directing his course westward he made for the East Indies, and reached the west coast of Australia, and sailed on to Bencoolen, where he took a little rest on shore, and then returned to England in 1691. Having now established his reputation as a circumnavigator, he was sent out by the British Government to the South Seas on an exploring expedition. He arrived again at the west coast of Australia, explored the Archipelago called after him, surveyed Shark's Bay and the north-west coast, giving the places along there the English names they now bear; explored the coasts of New Guinea, New Britain, New Ireland, giving his name to the Strait that separates the two former; and returned to England in 1701, after being shipwrecked at Ascension Island on his way home. In 1763, two able navigators, Wallis and Carterat, sailed from England to these seas on an exploring expedition and discovered the Society Islands, and other groups in the South Pacific. The discovery of Tahiti by Wallis, in 1765, was fraught with great interest, not only to the scientific world, but the future of Australia. About this time Astronomers had calculated, that the planet Venus in its course round the sun would, on the 3rd July, 1769, come between the earth and the sun, just as the moon does when there is a solar eclipse. This occurrence is called the transit of the planet Venus. Astronomers were very anxious to have the occurrence watched, and to see how long it would take to cross the face of the sun, but they were not certain in what part of the earth it would be best visible. Arrangements were made by the different Governments of Europe, to send their ablest men to different distant stations to make the desired observation. The English, ever foremost in a great work, undertook to occupy the station at Tahiti—the most distant part of the earth. Captain Cook, who had already distinguished himself as a man of science and a navigator, was selected for this important duty. He sailed from England with two ships, and arrived at Tahiti in April. There he waited until the 3rd of July, when, the day being favourable, he made his observations with great accuracy. It was the facts which were ascertained by these observations, that enabled astronomers to measure the distance of the sun and other luminaries from the earth, and to make many other astronomical calculations.

Having completed his arrangements, he set sail on the 13th of the same month, and directed his course south-westward, in order to test the correctness of the opinion—that there were continents in the Southern Hemisphere similar to those that lay in the Northern. On the 6th October, lofty mountains appeared in view, and all on board thought the great unknown Continent of the South lay before them; but a closer inspection gave them to see it was New Zealand, which had been discovered by the Dutch navigator Tasman in 1642. Having remained here for some months exploring the coast, he passed through the Strait which bears his name, and arrived at the east coast of Victoria, near Cape Howe, on the 19th April, 1770. Here he was obliged to direct his course northward, exploring the coast as he proceeded. He arrived at Botany Bay on the 28th of the same month. Here he landed, accompanied by two scientific gentlemen, Dr. Solander and Mr. (afterwards Sir) Joseph Banks. The south head of the bay he called after the latter, and the north head after the former. On the 1st May, they went on shore, and formed so high an estimate of the country, that the British Government was, through the representation of Captain Cook induced to found a settlement there, some 17 years afterwards. It was on account of the number of plants collected here that the place was called Botany Bay. On Sunday, 6th May, Captain Cook weighed anchor, and passed by, scarcely observing our unrivalled Sydney Harbour, which he noted on his chart, naming it after one of his seamen, on the look-out, who called his attention to it—Port Jackson. Proceeding on his course, he noted and named some of the principal headlands and bays, especially Mount Warning, Point Danger, The Glass Houses at Moreton Bay, Cape Capricorn, Cape Townshend, Cape Upstart, Halifax Bay, Cape Tribulation, Endeavour Strait, &c. He arrived at Cape York on the 19th August, and concluded rightly he had reached the Northern extremity of this Continent, and took possession of the coast he had explored, in the name of Great Britain, from 38 deg. S. Lat. to 10 deg. 30 min. S., and called it New South Wales.

As the jurisdiction of the Governors of New South Wales, for many years, extended over British subjects trading in the islands of the South Pacific, we may notice their discovery. The Marquesas were discovered by the Spanish navigator Mendana; Keppel's Islands and Howe Island by Wallis, after he was separated from Carterat in 1765; St. George's Islands by Byron in 1766. Captain Cook during his second voyage discovered several of the Marquesas and some of the Society Islands, Shepherd Islands, Erromango, Tanna, Aneitam, and other islands in the New Hebrides group not seen by Quiros the Spanish, or Bouganville the French navigator, who had previously visited this achipelago, and also the Navigators' Islands in 1768. Passing from these in his course for New Zealand he discovered the Isle of Pines and Norfolk Island. In his third voyage through these seas, on his course to Behring Strait, with a view of finding the long-sought North-west passage, he discovered the Sandwich Islands, none of which had up to that time been seen by any European navigator. Here his valuable life was cut off, in an affray with the savage natives, in February, 1779. The Fiji Islands were discovered by Bligh in 1789.

We shall now conclude this lesson, hoping, in our next, to notice the settlement and exploration of the country, and the foundation of the neighbouring colonies.

THE ATMOSPHERE.

In treating of this subject, the writer has endeavoured to afford, in a concise form, information suitable for lessons to the upper class in an ordinary school.

The earth is enveloped in a thin, transparent fluid, to which we give the name of Atmosphere. (Gr.: *Atmos*, vapour; *Sphaira*, a sphere.) This extends to the height of at least forty-five miles from the earth's surface, probably further. The atmosphere is not a chemical compound, but a mechanical mixture; nevertheless it is uniform in its constitution, no essential difference having been detected in its composition in one part of the world as compared with another. It is almost in perpetual motion; and according to its velocity, produces gentle breezes, brisk gales, high winds, or terrible hurricanes. I purpose to consider first, its physical properties; secondly, its chemical constitution.

I. Physical Properties.

1. It possesses extension and impenetrability, that is, it occupies a space and resists force.

(*a*) Take an ordinary tumbler, and fix to the bottom of it, on the inside, a piece of dry clean blotting-paper. Now invert it, and plunge it into a vessel of water. On withdrawing it, carefully wipe the sides of the glass with a cloth, and it will be found, on examination, that the paper has not been reached by the water at all.

(*b*) If a hollow cylinder, such as a child's pop-gun, be taken, into which fits an air-tight piston, it will be found that no pressure, which we can exert, will be sufficient to bring down the piston to the bottom of the cylinder.

2. It has weight and exerts pressure.

(*a*) Take a hollow globe of glass or metal, having an air-tight stopcock. Weigh it when full of air. Now exhaust the air and it will be found that the vessel is lighter than before.

Homely illustrations of the pressure of the air are very numerous, *e.g.*, the wind pressing against the sails of a ship, or the vanes of a windmill; the resistance one meets with on a stormy day; hurricanes, &c.

(*b*) If a tumbler be filled with water and then have placed on the top of it a piece of drawing-paper, it may then be inverted, and the upward pressure of the air against the paper will prevent the water from escaping.

(*c*) In a child's "sucker" the air is partially expelled from beneath the under surface of the leather, and it is the pressure of the atmosphere upon the outer surface which causes it to adhere to the object.

(*d*) In the ordinary syphon, which is used for transferring liquids from one vessel to another, the fluid is forced upwards by the downward pressure of the air on the surface of the liquid in the vessel.

(*e*) After exhausting the air, the receiver of an air-pump is found to be firmly fixed to the table on which it stands.

3. It is compressible and elastic, *i.e.*, it may be made, by the application of force, to occupy a smaller space, but on the removal of that force, it again occupies the space it originally filled.

(*a*) Take a hollow cylinder, such as a child's pop-gun, into which fits an airtight piston. It will be found that on applying force to the piston, the air in the cylinder may be compressed into a smaller space ; but on the removal of the pressure, the piston is pushed upwards by the elasticity of the air in the cylinder.

4. It is expansive.

(*a*) If a bladder be partly filled with air and tied tightly about the neck, it will be found, on placing it under the receiver of an air-pump and exhausting the air, that the bladder will be pushed out to its full size. This arises from the expansive force of the air within the bladder.

(*b*) If a bladder be blown up in the ordinary way and firmly secured by the neck, and then placed before the fire, it will be found that the expansion of the air by the heat is generally sufficient to burst the bladder.

5. It is a medium of sound.

If a bell be rung under the exhausted receiver of an air-pump it cannot be heard: on admitting the air the sound becomes audible."

(To be continued.)

NATIVE GAME PRESERVATION ACT.

It is very likely that many of our readers, and especially the young persons in the country, are not aware that with the date of this issue an Act of Parliament, passed two years ago, for the preservation of Native Game, will be again in force. From the 1st August to the 31st December is declared by this Act to be the breeding season, during which period any person killing, or keeping in captivity, or even destroying or taking the eggs of any of the birds mentioned in the schedule, will be liable to incur a heavy penalty, or be sent to gaol, on being convicted of so doing before two magistrates. The Legislature of this colony, as did also the Legislature of Victoria a few years before, acted very wisely and humanely in passing such an Act, which will go a good way towards preventing the annihilation of our native birds. It is to be regretted that the Act is not even more extensive in its operation; for although to man is given for meat the fowls of the air, as well as the fish of the sea, and the beasts of the field, there is no authority given to wantonly destroy or torture those that are innoxious or harmless to man. The destruction of those innocent birds, that by their presence and soft musical chirp so often delight the husbandman, and cheer the weary traveller in the bush, is not without its well merited retribution. The reckless use of the fowling-piece has been carried to such an extent by thoughtless youths in their wanton sports, and even by men who ought to know better, that, in some of the older districts of the colony, several of the winged tribes have all but disappeared. People are not generally aware that those birds which they have so cruelly destroyed were of incalculable benefit to farmers. The light contributions which birds levy on ripening grain and fruit, are more than compensated by the benefits conferred on the settler, by the destruction of the grubs and insects which are their staple food, and which, if not kept in check by them, would so multiply, and thereby become so formidable, on account of their voracious habits, as to render the growth of various kinds of crops an impossibility. In former years the sparrow, the crow, and various other birds, were regarded and treated as pests by farmers in the mother country, but it is not so now. Those who banished them from their respective neighbourhoods would gladly undo the mischief they did by their extirpation. It is fortunate that the whole nation was not of the same opinion when this exterminating process was being carried on, otherwise there would have been none left to supply the vacuum which the thoughtlessness, and in too many instances the cruelty, of many persons had made. The absence for a time of these useful birds had allowed their prey to multiply, and the scarcity which was occasionally felt in the localities where they were permitted to remain, led them to return to the deserted haunts before the evil, which their total extinction would have occasioned, became sufficiently known. Hence the length of time it took to demonstrate their utility to man.

But the application of science in this, as well as in other things, has brought wonderful things to light. It is now proven that Nature, in her diversity of gifts, was right, and that those innocent warblers and chirpers of the forest and the farm, are among the best friends of mankind. There are few things that have not some important function to perform in the economy of animated nature. But as the most useful, if not supplied with some counterpoise, may become a nuisance and a scourge, so the beneficence of the Creator has arranged it, that one thing so operates against another, that in the relative proportions of the different kinds of life, a just equilibrium is kept up. When then one of those elements in the maintenance of this equilibrium is destroyed, the result must be derangement to a proportionate extent. Possibly the existence of the venomous reptiles with which the uncivilized parts of the world abound, served an important and wise purpose. But as the function which they perform is equally effected, as settlement and civilization advances, their destruction only serves to maintain the due proportion which their existence under former circumstances tended to promote. The case is very different, however, with those little birds that enliven the bush, in the vicinity of cultitivated land and waterbrooks, with their soft and melodious chirping. These never injure anything useful to man, but on the contrary greatly serve him by destroying the numerous kinds of insects that prey upon the produce of the farm. The smaller as well as the larger birds of Australia, can scarcely be considered less formidable enemies to these unassailable pests than the little birds of Europe, where it is calculated that each swallow destroys every season no less than 22,000 of those insects, which if unchecked would become a scourge to the land; and yet such is the folly to which many of our Australian youths are addicted, that in some localities a bird is rarely met with, while the *aphis* and other noxious insects have by their devastations amply avenged the excessive use of the gun, and the inconsiderate clearing away of all their wonted shelter. The destruction of some of our vegetable productions is, in the opinion of many, an instance of this. It is not improbable that the disease in the wheat crops, which we call rust, may be attributed to the poisonous bites of some kinds of grubs, or the eating away of some vital part of the plants at the roots by earth insects, which multiply in the absence of those birds that fed on them, but which the folly of man has almost driven from the settled districts.

The wisdom of the Legislature has devised some check for this wonton destruction by passing a Bill for the preservation of Native Game during the Breeding Season (assented to April 7th, 1866). For the information of our readers in the country, we give the 5th, 6th, and 7th clauses, which will let them see what the law is now in reference to native birds :—

> 5. If any person shall wilfully kill or destroy any native game within the period mentioned in the second Schedule to this Act as the period of prohibition in regard to any bird or other animal being native game or shall use any instrument whatever net or any other means within the period aforesaid for the purpose of killing or destroying any native game such person shall upon conviction forfeit and pay any sum not exceeding the sum of two pounds.
>
> 6. If any person shall buy sell or knowingly have in his possession house or control any game at any time or any native game within the period referring to such native game respectively in the second Schedule to this Act every person so offending shall forfeit and pay a penalty not exceeding the sum of five pounds for every head of game in addition to the value of any such game such value to be assessed by the Justice or Justices hearing the case for every head of native game so found in his house possession or control.
>
> 7. If any person shall wilfully take out of the nest or destroy in the nest the eggs of any bird of game or native game or shall knowingly have in his house or possession any such eggs every such person shall forfeit and pay a penalty not exceeding the sum of ten shillings for each egg so destroyed or found in his possession or control.

The eighth section exempts persons being the owners of native game, or who had caught or taken such game during the period not prohibited by the Act. The ninth section enacts that persons offending against this Act must give name and address and deliver up game, guns, &c., otherwise may be apprehended.

The first Schedule specifies animals introduced by the Acclimatization Society, and all birds not indigenous to Australia.

The following is the second Schedule :—Wild Ducks of any species, Teal, Emu, Native Companions, Wild Turkey or Bustard, Black Swans, Wild Geese, Bronzed-winged and other wild Pigeons, Mallee Hen, Quail, Land Rail, Curlew, Tallegalla or Brush Turkey, Plover of any species, Great Kingfisher commonly known as the Laughing Jackass.

The increase of those birds not indigenous to the country, is to be regarded with the liveliest satisfaction, as it is highly probable that among them will be found some that will prey upon pernicious insects untouched by those birds indigenous to Australia.

INTELLIGENCE.

SCOTLAND.—SCOTCH EDUCATION COMMISSION. COMMISSIONERS' RECOMMENDATIONS.

1.—EDUCATION IN SCOTLAND.

The Commissioners found the state of education in a very peculiar position. There was, on the one hand, a National Institution, consisting of the Parochial, Side, and Parliamentary Schools, established by law, maintained by local assessment, and designed to be commensurate with the educational requirements of the country. But this institution was found not only inadequate in its dimensions to accomplish the object for which it was designed, but immeasurably short of it. On the other hand, there was a supplementary system forced into existence partly by denominational rivalry, but mainly by the deficiencies of the National system, which furnished more than two-thirds of the education of the rural districts of Scotland, and on which that of the towns of that country depended. Both the National and Voluntary Schools were to a certain extent aided by grants from the Committee of Council; but the first and most striking results of the facts collected was the entire inadequacy in point of extent of the National system, to supply the means of education in the country.

2.—INADEQUACY OF ATTENDANCE.

Statistics showed that school attendance was inadequate notwithstanding all the appliances to which the Commissioners referred, and assuming that all existing schools were efficient, the school attendance tested by the usual rules did not come up to the proper standard. The population of Scotland was in 1861, 3,062,294. If one-fifth be assumed as representing the children who ought to have been at school, the number of scholars on roll should have been 510,382, but there were only 418,367, and 92,000 who were not enrolled.

3.—INEFFICIENCY IN THE TEACHING AND BUILDINGS.

In all existing schools, the quality of the teaching, the state of the buildings, and the appliances, were defective. The most desirable and simplest course for supplying defects would be the extension of the Parochial or National system on its original model, and on a scale proportioned to the whole population. But it was not deemed either practicable or desirable to throw aside or at once to take over at the expense of the nation or of the locality, the schools that had been erected by voluntary efforts, or to supply from national funds or from local assessment, the contributions at present furnished from private sources. The conclusion at which the Commissioners had arrived was, that by judicious improvement of the Parochial or National system, and by taking advantage of the existing schools outside that system, combined with a reasonable modification of the rules on which the Privy Council grants were administered, and the extension of Government inspection, the existing schools might be rendered thoroughly efficient. Even then, however, it would be necessary especially in large towns to provide for the establishment of new schools.

4.—INADEQUACY OF PAROCHIAL SYSTEM.

All the schools forming the National system constituted only a fractional part of those which supplied education in the rural districts of Scotland, and the system did not extend to burghs. Out of 4,451 schools in the rural districts there were 1,133 Parochial, 910 adventure schools. This left 2,408 schools supported by voluntary efforts—denominational or individual. This state of things had presented to them (the Commissioners) the most formidable difficulty they had had to encounter. These schools were for the most part all wanted—they represented an amount of denominational, local and individual energy in the cause of education: they had school buildings, masters, &c., more or less efficient; to dispense with them at once and cast them aside for a symmetrical new system would have been extravagant; to leave them as they were would be to perpetuate a state of things necessarily defective. The Commissioners, therefore, resolved to recommend, that these schools should as far as possible be adopted as they stood, and under their existing management into the National system. They would be subjected to inspection and supervision in order to secure efficiency, and would participate in the grants made by Government.

In order however to accomplish this object the Commissioners were of opinion that central authority was indispensable, and such they found to be the almost universal opinion of the witnesses they had examined.

5.—Board of Education to be Constituted.

The Commissioners recommended the appointment of a Board of Education, the duties of which in the opinion of the Commissioners should be—

1. To determine the number and character of schools required in each parish or burgh.

2. To incorporate into the National system as many of *the existing* schools as might be deemed requisite.

3. To authorise and enforce the erection of new schools, as might be required.

4. To insist that all school buildings should be efficiently maintained, and that the teaching should be efficiently conducted.

Public National Schools of Three Kinds.

The result of this proposal would be that the schools recognised as Public National Schools would be of three kinds, viz., Parochial Schools, Adopted Schools, and New Schools. They proposed also that two or more parishes might combine for the purpose of establishing a school common to all of them, and maintained to a certain extent by each. Such new schools would be termed Combined National Schools.

Things Common to all National Schools.

The Commissioners proposed—

1. That every Parochial, Adopted or New School should be visited by an inspector once every year.

2. That any inspector, whatever his religious denomination, might enter and inspect any school to which he might be sent; but he should not examine in religious knowledge unless requested to do so by a majority of managers.

3. That duplicate copies of the inspectors' reports should be transmitted to the Board of Education.

4. That none except National Schools should share in the Parliamentary grant.

5. That every National School should be open to scholars of all denominations, but that it should be declared by statute, that any scholar might withdraw from any instruction to which his parents might, on religious grounds, object.

6. That all National Schools should be subject to the Revised Code modified so as to suit the requirements of the country.

Management of Schools.

Parochial and Adopted Schools would continue to be managed as at present, but would be subject to inspection, and under the control of the Board. The principal reason why the Commissioners proposed to leave the management of adopted schools unchanged was, in order to maintain them at the least expense to the general public. In every case of an adopted school the managers would continue to elect the master and to superintend the instruction. The school would be open to all; the Board would have the power to see that the master was efficient, and to insist on the school buildings being kept in repair, and that at the cost of the Managing Committee.

ADOPTION TO BE RESTRICTED.

The privilege of adoption ought, in the opinion of the Commissioners, to be strictly confined to the denominational schools which might happen to be in existence within two years after the passing of the Act, and that no school should be adopted unless it should be considered necessary for the district, and unless it should be efficient in the character of the teaching and buildings. The Commissioners were of opinion that the denominational was an unnecessary system in Scotland, and that although it would be extravagant to throw aside existing denominational schools, still it was essential that no denominational school should for the future be erected by the aid of the Treasury, or after a fixed time adopted into the National system.

TEACHERS. TENURE OF OFFICE.

This was a question of very great importance. At present the Parochial Schoolmasters held office *ad vitam aut culpam*. The Commissioners thought the law on this subject should be modified. They (the Commissioners) were impressed with the conviction, that the permanent tenure upon which the teacher held office, was one great cause of inefficiency where it existed. The experience of the denominational system proved that such tenure was not necessary to attract able and efficient men to the office of teacher. No system could be really efficient without some ready means of removing teachers, who did not or could not perform their duties. The Commissioners, therefore, recommend that subject to the approval or action of the Board of Education, and careful provision against unjust or capricious dismissal, facilities should be given for dispensing with the services of inefficient teachers in office, and that the tenure *ad vitam aut culpam* should be abolished as regarded future appointments.

CLASSES OF TEACHERS. TEACHERS HOLDING OFFICE.

For those who held office in Parochial Schools special provision should be made.

With respect to teachers in other schools there was no difficulty, because no school would be adopted unless the teacher held a certificate of competency.

CERTIFICATES.

With the exception of parochial teachers who might be in office when the Board would be constituted, all other teachers should hold certificates of competency, which the Board should have the power to suspend or withdraw upon certain conditions such as immoral conduct or failure to discharge efficiently school duties, &c.

NEW ZEALAND.—REPORT OF THE EDUCATION BOARD OF THE PROVINCE OF OTAGO FOR THE YEAR 1867.

At the close of the year 1866, there were 51 District Schools and 3 Free Schools in operation throughout the Province. During 1867, 5 additional schools were established, leaving at the close of the year 59 schools under the Board. In these 59 schools there were 88 teachers employed, viz., 57 Masters, 19 Mistresses, and 12 Pupil Teachers.

The number of pupils who attended schools under the Board during the year was 4367, and the average attendance 2942, shewing an increase in the average attendance on 1866 of 374, of which 110 belonged to new schools, the remaining 264 being increase at schools formerly established.

The Inspector (J. Hislop, Esq.) states that owing to an accident which befell him, he had been unable to examine any of the schools during the year, but that they are, he believes, generally in a very satisfactory condition. The returns show that the proportion of pupils learning the more advanced subjects has been much larger than in 1866. For example, the numbers who in the year 1866 were reading Letters and Monosyllables, Easy Narrative, and

Books of General Information, were respectively 626, 1378, and 1680; while in 1867 the corresponding numbers were 757, 1378, and 2077.

Great attention has been bestowed by nearly all the teachers upon the instruction of their pupils in correct spelling, and in the elements of English Composition.

There were only three schools in which pupils were not exercised in writing to Dictation, while instruction in the elements of composition was given with greater or less success in all the schools except twelve.

The number of pupils engaged in writing to Dictation was 1599, and of these 944 were taught composition.

The number of scholars learning the geography of New Zealand was 1196, most of the schools are now supplied with Johnstone's large map of New Zealand, and all of them with the Government of Otago. There is reason to hope that all the schools will be provided with maps of Australasia or Oceanica as well as of New Zealand before the expiry of another year, and that by the more general use of Mr. Park's handbook of the geography and history of Oceanica the pupils of all the schools will in due time become well acquainted with the geography and history of their own colony, and the adjacent colonies and islands.

The number of pupils learning singing has increased in one year from 903 to 1834. In all probability next year's report will show a very large increase in the number of schools in which singing is taught, and in the number of scholars receiving thorough and systematic training in this art.

During the year 1867 the number of pupils learning the higher rules of Arithmetic was 397; Algebra or Geometry, 69; English Grammar, 1597; General Geography, 1733; History (British), 653; Latin, 136; French, 64; Drawing, 172; Book-keeping, 97; Sewing, Knitting, &c., 860; Phonography, 59; Greek, 1.

The increased attention given to instruction in singing and the geography of New Zealand proves that the school committees and the masters have endeavoured as far as possible to carry out the recommendation of the Board last year, in regard to the teaching of those branches of instruction.

INCOME AND EXPENDITURE.

	£	s.	d.
Income	11,731	0	4
Expenditure—			
Office	673	14	1
Elementary Schools	7,742	7	6
High School	2,362	19	9
Sundries	951	19	0
Total	£11,731	0	4

The average cost of every pupil on roll was £1 13s. 6d.; taking the average the cost would be £2 8s. 4d. The corresponding rates for previous year were £1 7s. 9d. and £2 11s. 3d.

In compliance with the request of the Otago Schoolmasters' Association, an order for books to the value of £100 has been sent to Britain for the purpose of forming a Schoolmasters' Library.

The amount has been made up as follows, viz.:—Unconditional grant by the Government, £50; Grant on the pound for pound principle as provided by the Education Ordinance, £25; subscribed by the members of the Schoolmasters' Association, £25. The list of books was prepared by the Association, and it includes many first rate works on the science and art of Education, as well as numerous other standard works whose perusal and study will tend greatly to benefit the schoolmasters, and through them the interests of Education within the Province.

SOUTH AUSTRALIA.—REPORT OE THE CENTRAL BOARD OF EDUCATION FOR THE YEAR 1867.

The Board held twenty-two meetings during the year. The increase in the number of schools exceeded the average increase of several of the last preceding years; the number of scholars who attended did not bear so favourable a comparison. The visit of H. R. H. the Duke of Edinburgh was the cause in a great measure of this decrease; the prevalence of an unusual amount of sickness also seriously interfered.

The experiment of opening bush schools had been tried, and from the favorable results obtained, the Board were of opinion that a large amount of usefulness might be derived from them. The establishment of a school on Kangaroo Island was also under the consideration of the Board.

In very thinly peopled country places the Board thought that itinerant teachers might be advantageously employed. An experiment of this kind, tried during the year, proved a failure; the Board, however, hoped yet to see the plan tried under more favorable circumstances, and with better results.

Ninety-one applications were received during the year from persons desirous of obtaining licenses to teach. Of these twenty-nine were refused for various reasons. Twenty-eight teachers resigned during the year; the reason given for these resignations was principally the want of sufficient support on the part of the parents.

Teachers of licensed schools were nominated by Corporations, District Councils, Trustees of Schoolhouses, &c. These nominations had to be submitted to the Central Board for its approval.

The concurrence of the Board must be sought before any teacher could be removed from a school to which he or she had been licensed.

Licenses granted to new teachers were probationary until they had passed an examination in the ordinary subjects required to be taught in schools, and their practical skill had been tested.

Teachers were classified in accordance with their attainments and their skill in teaching. Those who had certificates from England, Scotland, Ireland, or the Australian Colonies were exempted from the examination otherwise required.

Licenses issued to teachers were renewed annually. Stipends were paid quarterly, and ranged from £40 to £80 per annum.

The schools of licensed teachers were open to children of all conditions of life. The subjects required to be taught were Reading, Writing, Arithmetic, Grammar, Geography, and History.

The number of licensed schools was	308
Number of pupils on roll......................	14,600
,, ,, in average attendance	11,448

MODEL SCHOOL.

The want of a model school continued to be so seriously felt, that the Board considered the establishment of such an institution should not be longer delayed. The benefits that would accrue from the establishment of a model school were very great. It would do much towards providing accommodation and the means of instruction for numbers of the children of the poorer classes in Adelaide. It would also serve as a training institution for inexperienced teachers, and thus be the means of improving the methods of instruction over the whole colony.

DOMESTIC ORDER.—Where there is disorder, there is no tranquility, no excellence, no happiness. Order in families is essential to their peace, elevation, and progress. In our households, everything should be done at the best time, as well as in the best manner. There should be rules to direct and govern, from which there should be no deviation, unless necessity compel. Disorderly habits, a constant want of arrangement, will entail nothing but loss and misery: and as the children grow up, these habits will be rendered fixed and permanent, so that they will become men and women, fathers and mothers, without any love of rule or order.

Discipline chastens a mind, and renders it amiable: it lays the proper basis on which to erect the character; adds to an excellent disposition a good understanding, and the individual rises to eminence and diffuses happiness where he exerts his influence. Upon a contrary basis a character may be formed, imposing and splendid, but which, from want of symmetry, excites terror rather than confidence. A clever man who is not amiable repels the prudent from the sphere of his influence. To unite a well-informed mind to a benevolent disposition is a subject of such vast importance that it can never be over estimated nor contemplated in too many points of view.

ORIGINAL CORRESPONDENCE.

(Writers of all communications intended for publication in this Journal must furnish us with their names, not necessarily for publication, but as a guarantee for good faith and correctness. The Conductors of the Journal are not responsible for opinions expressed by correspondents.)

To the Editor of the Australian Journal of Education.

SIR,—As your Periodical is intended, I believe, as a mutual-improvement vehicle, particularly among the Teachers of the Public Schools, I write this, humbly thinking, that is may prove useful to some of your readers.

The following memoria technica, which I was taught at school in England, and which I found useful at College, and still make use of very frequently, may be very acceptable to teachers particularly. Instead of remembering figures of any particular date, it is presumed the mind will more readily retain a short sentence, having reference to the event. The initial of each word in the sentence stands for one of the digits, or a cipher. It may appear difficult to remember what numbers the letters severally stand for, but a little practice will make the apparent difficulty disappear. Just so the letters of the alphabet and the digits to a novice appear difficult to distinguish; but "practice makes perfect."

The table I was taught is this :—

A,	I,	stand for the	number	1.
T,	S,	„	„	2.
G,	J,	„	„	3.
Q,	E,	„	„	4.
F,	H,	„	„	5.
L,	B,	„	„	6.
D,	W,	„	„	7.
C,	P,	„	„	8.
N,	M,	„	„	9.
R,	O,	„	„	0.

Of course, the table can be altered, and made according to the wish of him who adopts the plan. I have a reason, why each couple of the above-mentioned letters are chosen as the representatives of the different corresponding figures. It would take too much of your valuable space to give the reasons for all, but I will produce one or two. For instance,—5 is represented by F, H,—because there are *five f*ingers on each *h*and, those letters being the initials of the words—finger, hand. Again, N, M, stand for 9—because 9 is the *n*umber of the *m*uses.

I will now give a few sentences of my own finding, and sometimes it requires a little time to find an appropriate sentence, which little circumstance, fixes the sentence and date indelibly on the mind. It is desirable, therefore, that each person should adopt his *own* sentences. To remember the year of the "Defeat of the Spanish Armada," I have the sentence—"Armada's Host Completely Conquered," which, according to the Table given above, is 1588, A.D. "It Gives Right Steering"—shows the year of "the invention of the mariner's compass," viz. —1302, A.D. To remember the year the Duke of Wellington was born, I have the sentence—"Iron Duke Born Now," which gives 1769, A.D. Let these suffice. I need not insist on the importance of chronology, one of "the eyes of history."

In conclusion, I will mention one little anecdote, which will show what mistakes may be made without a knowledge of it. In the year 1852, I asked a neighbour, who happened to be passing my door in the country, to step into my house, out of the rain, and during our conversation, he told me he had a brother, then alive, who was present at the *Battle of Hastings*. I replied, "he must be a very old man, for that battle was fought more than 700 years ago. Perhaps you mean the Battle of Waterloo, which was fought about 37 years ago." "No," he said "he is much older than that;" so that I was left in ignorance of his brother's age, from his want of knowledge of

History and Chronology. It is the ne plus ultra of folly to mention incerta pro certis.

Hoping you will pardon me for thus occupying your time by reading this letter, which, if you deem useful to the cause of education, you can insert in your Journal of August,

I remain,
Yours faithfully,
PHILELPIS.

[Our Journal is not intended exclusively, or even specially, for Teachers of the Public Schools; but for all Teachers under the Council of Education.—EDS.]

To the Editor of the Australian Journal of Education.

SIR,—The construction of a Time Table is admitted to be a very important part of School Management. In constructing one for a Third Class, in the third quarter of enrolment, what time per week should I devote to each of the following subjects, viz. :—Reading, writing, arithmetic, grammar, geography, analysis, dictation, objects, linear drawing, vocal music, and Scripture.

I would feel much obliged by any of your readers supplying the required information?

I am, Sir,
Your obedient Servant,
S. P. M.

To the Editor of the Australian Journal of Education.

SIR,—Conceiving your Periodical to be an organ of friendly criticism, your humble Servant, the writer of this, hopes that he will not (as he himself is open to criticism) offend anyone by this letter. Each and all of us should be guided by this golden maxim—" Quod tibi fieri non vis, alteri ne feceris."

In your issue of May, you are guilty, in my humble opinion, of a little faux pas in the "Specimen of Analysis of Complex Sentence with Substantival Clauses." You therein state that "*forth*" is an "Extension of Predicate," expressing an "Adjunct of manner." Is this really the case? I am sure you will be glad to find that one of your readers takes such interest in your Monthly Periodical, as to weigh well what you therein lay down, and endeavour to inform himself (for "we are never too old to learn") and others, on a subject of such importance to scholastic teachers. Does the word referred to express *manner* of *any* kind? Is it not in *sense* inseparably joined to "go," and does not strict orthography demand that the two words should be written with a hyphen between them? Is it, viz., "forth," not an intensive postfix? My interrogations, in part, imply that they expect replies in the affirmative; but, of course, I may be in error, and, if so, will be very thankful to be put right.

In your "Specimen of Analysis," in No. 6, (issue of June) you do not complete the predicate by supplying the object after "freshens." The verb mentioned must here be used *transitively*; and in Article 44, of your "Analysis of Sentences," you state—" The *completion* of the predicate is *necessary* when the single verb does not fully express what the subject *is* or *does*." This is the case with all *transitive verbs, &c.* There must be, therefore, some word understood after "freshens;" and should you not have written it in your "Specimen Form," just as much as "who," the subject to "leads?" There can be little doubt but that the *object* is "*earth*" understood. Certainly the sentence you have chosen is taken from a Poem; but, if poets are licensed to use certain expressions, *Grammarians* are not.

Before concluding this, may I ask you kindly to inform me if the expression—" With this view I beg to differ," used by your correspondent, "Hawkesbury," (who, I sincerely hope, will not deem me unkind in thus criticizing his words) is correct? Should it not be "*From* this view, &c.? Perhaps "With" is a misprint.

Whenever I may appear to anyone to make a mistake, I will be grateful to be corrected, and will take care not again to commit the same error. When time permits, I put in practise the advice given to us by the bard of Venusium—"Sœpe stylum vertas," whenever I write a letter. Hoping you will excuse me for thus occupying your time and space,

I remain,
Yours faithfully,
OXONIENSIS.

WE are informed that the memorial to the Council of Education respecting the establishment of a Superannuation Fund, with more than five hundred signatures attached, has been forwarded, and that the Council has caused the following circular to be issued to Teachers with a view to elicit the necessary information. We hope that Teachers will reply promptly and fully.

COUNCIL OF EDUCATION OFFICE,
Sydney, 1868.

PROPOSED SUPERANNUATION FUND FOR THE OFFICERS AND TEACHERS UNDER THE COUNCIL OF EDUCATION.

Mr. Teacher of the
School at in the District
is requested to fill up, *as accurately as possible*, the Return at foot, and forward the same WITHOUT DELAY to this office, in an envelope marked "Superannuation" in the bottom left hand corner.

By order of the Council,
W. WILKINS,
Secretary.

Date of your birth..............		
Length of Service up to 1st instant	Years.	Months.
Present Salary	£ : :	
Are you Married or Single ?... If Married, how long ?......... If any Children, how many living ?........................ dead ?..........................		
What is your PRESENT state of health ?		
What is your GENERAL state of health ?		
Do you suspect yourself to be subject or liable, or to have any family predisposition to any complaint tikely to shorten life ? If so, please state particulars..............		

Dated at *this* *day of* 1868.

(*Signature*)

NOTICES TO CORRESPONDENTS.

Philomath.—We do not recollect receiving the solutions you mention. We have a large number on hand which we are unable to identify on account of the absence of a signature.

E. Hewison.—We do not undertake to revise answers to questions signed by persons who are not subscribers to the Journal.

J. Sheldon.—Your letter was received too late far consideration this month.

W. H. Braine.—An article on the subject of your paper was in type prior to receipt of your communication of 16th July.

G. G.—Your useful paper on the mechanical properties of air has been anticipated by another contributor. We shall be glad to hear from you on some other subject.

Philelpis.—We should prefer to know, before printing your paper on Botany, how far you purpose continuing the subject. The object to be kept in view by papers of this kind might be—1. To form an easy introduction to the study of the subject, preparatory to taking up a text-book: 2. To show how the subject may be practically and profitably studied: 3. To give special information on a particular branch; or, 4. To provide material for object lessons.

QUESTIONS FOR SOLUTION.

1. A shilling contains 80·727 grains of pure sillver. If a dollar weighs 412·5 grains, and is valued at 4s. 8d., find the quantity of alloy in a dollar.

2. Rationalize

$$\frac{\sqrt{5} + \sqrt{3}}{\sqrt{5} - \sqrt{3}}$$

3. The weight of a certain number of drams avoirdupois exceeded that of 27 times as many grains troy by 22 ounces avoirdupois. Find the number of drams avoirdupois.

4. The expense of keeping 27 horses for 25 days exceeded that of keeping 15 horses for 35 days by £26 5s. At this rate, how many horses could be kept 19 days for £123 0s. 6d?

5. A man can walk 4 times as fast forwards as he can backwards. He undertakes to walk a certain distance, one-fourth of it backwards, in a certain time, but the ground being bad, he finds that his rate per hour backwards is $(\frac{1}{5})$ one-fifth of a mile less than he had calculated on, and that to win he must walk forwards 2 miles per hour faster. What is his rate per hour backwards?

6. Prove arithmetically that $\cdot 24\dot{9} = \frac{1}{4}$.

1, 2, 3 *and* 4 *to be worked by arithmetic.*

7. Of all triangles having the same verticle angle, and whose bases pass through a certain point, the least is that whose base is bisected in that point.

8. The difference between the angles at the base of any triangle is double of the angle contained by two lines drawn from the vertex, one bisecting the verticle angle, and the other perpendicular to the base.

ANSWERS TO QUESTIONS IN No. 7.

Question 1.—Correctly by E. Hewison, E. Walker, Hargraves, Jacques, J. Cameron, R. Bousfield, A. A., P. Downey, and R. C.

The following is the solution by R. Bousfield:—

By the question it appears that B, with A's help for 21 days, can do the work in 112 days; but if A assisted him 49 days, he could do it in 91 days, $\therefore$ the difference betwen A's time 49 days − 21 days = 28 days, saves B 112 days − 91 days = 21 days work. Hence A can only do $\frac{21}{28} = \frac{3}{4}$ as much in one day as B can do. $\therefore$ A's assistance for 21 days, only saves B $\frac{3}{4} \times 21 = 15\frac{3}{4}$ days work. $\therefore$ B's time to do all the work would be $112 + 15\frac{3}{4} = 127\frac{3}{4}$ days, and $127\frac{3}{4} \div 1\frac{3}{4} = 73$ days = time in which A and B could do it together.

Question 2.—By E. Hewison, E. Walker, Hargraves, J. Cameron, R. Bousfield, A. A., D. Treehy, P. Downey, R. C., and H. Macintyre.

The following is the solution by E. Hewison:—

Firstly, 6s. 5d. − $\frac{1}{11}$ of 6s. 5d. = 5s. 10d. = the cost of the mixture.

$$\text{Secondly, 5s. 10d.} \left\{ \begin{array}{l} \text{5s. 8d.} = -2 \\ \text{6s. 2d.} = +4 \end{array} \right\} \begin{array}{l} \therefore \text{2 lbs. at 6s. 2d.} + \text{4 lbs. at 5s. 8d.} \\ \quad = \text{6 lbs at 5s. 10d.} \end{array}$$

Now $2 : 19\frac{1}{2} :: 4 : 39$, *i.e.*, 39 lbs. at 5s. 8d., mixed with $19\frac{1}{2}$ lbs. at 6s. 2d., will make $58\frac{1}{2}$ lbs. at 5s. 10d., and this sold at 6s. 5d., will produce a gain of 10 per cent.

Question 3.—By E. Hewison, Jacques, J. Cameron, D. Treehy, and R. C.

The following is the solution by E. Hewison:—

$$\text{Firstly, } 16\tfrac{2}{3} - \frac{33}{100} \times 16\tfrac{2}{3} = \frac{50}{3} - \frac{33 \times 50}{300} = \frac{67}{6}$$

$$\text{Secondly, } \frac{67}{6} \div 20 = \frac{67}{120} \text{ and } \frac{67}{120} \times 100 = \frac{335}{6} = 55\frac{5}{6}$$

= the amount per cent. received by creditors.

Again, $100 - 55\frac{5}{6} = 44\frac{1}{6}$ = amount per cent. lost by creditors, and (£1068 8s. 10d.) $\div 44\frac{1}{6} = 24\frac{1}{100}$ cents., wherefore the debts were 2401 pounds.

Question 4.—By E. Hewison, E. Walker, Jacques, R. Bousfield, and A. A.

The following is the solution by E. Walker:—

$$\begin{array}{r} 13{\cdot}245678 \\ 764153{\cdot}2 \\ \hline 26491+ \\ 3974- \\ 662+ \\ 13+ \\ 5+ \\ 1- \\ \hline 31{\cdot}146 \end{array} \quad \text{Answer.}$$

RULES FOR CONTRACTED MULTIPLICATION.

1. In the multiplicand mark the digit two places to the right of the point of accuracy.
2. Below this marked figure write the units digit of the multiplier, setting down the other digits in inverted order.
3. Multiply each digit into that which stands immediately above it and those on the left, the first product in each case being set down below the marked figure.
4. In the sum of the products, place the decimal point vertically below its position in the multiplicand,
5. Strike out the last two digits on the right, and if they form a number not less than fifty, increase the preceding digit by one.

Question 5.—Answered by E. Hewison, E. Walker, D. Treehy, R. C., and H. Macintyre.

The following is the solution by E. Hewison:—

Let x = number of days of projected voyage.

$175x$ = number of measures of water.

$x + 21$ = number of days of protracted voyage.
$x + 21 - 30 = x - 9$ = number of days of diminished issue.
$175x - 5250$ = number of measures of water remaining at the expiration of 30 days.

Hence we have the following arithmetical progression:—

$$175x - 5250 = (344 + \overline{x - 10} \times -3)\frac{x - 9}{2}$$

Whence $3x^2 - 51x = 7134$

$$\therefore x = \frac{17}{2} \pm \frac{99}{2} = 58 \text{ or } -41$$

Wherefore the projected voyage was 58 days.
The voyage actually lasted $58 + 21 = 79$ days.

Question 6.—By E. Walker, Hargraves. A. A., and P. Downey.

The following is the solution by E. Walker:—
Let x = the circumference of the fore wheel in feet.
And y = the circumference of the hind wheel in feet.

Then $\frac{360}{x} - 6 = \frac{360}{y}$ (*a*)

And $\frac{360}{\frac{5x}{4}} - 4 = \frac{360}{\frac{6y}{5}}$ (*b*)

Clear of fractions, transpose, divide, &c.

$$60y - 60x = xy \quad (a)$$
$$72y - 75x = xy \quad (b)$$
$$5 \text{ times } (a) = 300y - 300x = 5xy$$
$$4 \text{ times } (b) = 288y - 300x = 4xy$$
$$\text{Subtract, and } 12y = xy$$
$$\therefore x = 12$$
$$\text{By } (a)\ 60y - 720 = 12y$$
$$\therefore y = 15.$$

The fore wheel is 12 feet.
The hind wheel is 15 feet.

Question 7.—By E. Walker and Hargraves.

The following is the solution by E. Walker:—

$$\tfrac{1}{3}\left[4a(1 + x) - \tfrac{9}{4}(a - x)\right] = \left[3a(1 - x) - \tfrac{16}{3}(a + x)\right)$$

Multiply by 12, and $16a + 16ax - 9a + 9x = 36a - 36ax - 64a - 64x$.
Collect, and $73x + 52ax = -35a$

$$\therefore x = \frac{-35a}{73 + 52a}$$

Question 8.—By Q., A. A. (one case), P. Downey. Solution with diagram to appear in our next issue.

Question 9.—By W. Hullick, Spaniard's Hill, B., James Hullick, P. Downey, and A. Lansdown.

[The best paraphrases we have received are in verse. It is not necessary, nor proper even, that a paraphrase of a piece of poetry should be in verse. Being a mere reproduction of certain given ideas in other words, a paraphrase should take the simplest possible form, and employ no more words than are required to convey the sense.—EDS.]

The following paraphrase is by Spaniard's Hill:—

'Twas eve, and near the orb of day,
  With gleam of crimson on its snow,
A small white cloudlet cradled lay,
  Reflected in the lake below.

Half dazzled by the water's sheen,
  I gazed upon the thing of air;
Like sleeping cherub, so serene,
  And calm, and pure, and fair.

And so each evening zephyr blew,
Ruffling the limpid water's crest,
Unerringly, yet gently too,
It bore the cloudlet to the west.

Meet type of the departed soul
Methought, o'er whose white robe is cast
A ray of pure celestial bliss,
When all its earthly cares are past.

Which is by the all-powerful breath
Of Heaven's mercy made to roll
Triumphant over sin and death
Right onward to its heavenly goal.

Where tranquil in its blessed abode,
It speaks of man's great destiny:
The sweet enjoyment of his God
In realms of peace beyond the sky.

Question 10.—No satisfactory replies having been received to this question, we beg specially to invite the attention of teachers to it, and to suggest that answers should be sent in time for our next issue.

Question 11.—Only one correspondent has attempted to answer this question, and he has failed to discern the real difficulty. We invite further attempts.

Question 12.—Well answered by P. Downey, though not with absolute correctness in all the details. The following is his general analysis: the detailed analysis is too long to give entire.

A. Who shall say	Principal clause.
b. What work and works this England has yet to do.	Substantival, objective to A.
c. For what purpose this land of Britain was created,	Subtantival, objective to F, co-ordinate with *d* and *e*.
d. Set like a jewel in the encircling blue of ocean,	Substantival, objective to F, co-ordinate with *c* and *e*.
e. And this tribe of Saxons fashioned in the depths of time "on the shores of the Black Sea" or elsewhere, "out of Harzgebirge rock," or of whatever other material, was sent travelling this way	Substantival, objective to F, co-ordinate with *c* and *d*.
F. No man can say;	Principal clause, co-ordinate with G.
G. It was for a work, and for works incapable of announcement in words;	Principal clause, co-ordinate with F.
H. Thou seest them there;	Principal clause.
I. Part of them stand done and visible to the eye;	Principal clause.
J. Even these thou canst not name;	Principal clause.
K. How much less the others	Principal clause.
l. Still matter of prophecy only.	Adjectival clause to *K.*

Questions 13 and 14.—We invite answers to these questions, none having been received.

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THE

Australian Journal of Education.

Vol. I. TUESDAY, SEPTEMBER 1, 1868. No. 9.

SCHOOL RULES.

A Teacher should be absolute in his own school. This is a principle long and thoroughly established in the opinion of all experienced educationists. But in practice, the proposition requires some limitations. Absolute power must be used judiciously or mischief will ensue both to the governor and the governed. Some Teachers unfortunately do not possess the necessary judgment, and to them the power of doing as they please is a dangerous privilege. To be compelled to act upon the impulse of the moment is a severe trial to the wisest; it is a snare to the weak and vacillating, This "unchartered freedom tires" even judicious teachers. They seek to escape from the responsibility of forming a judgment upon each particular matter brought under their notice. They object to the loss of time in referring continually to first principles, and desire a more obvious standard by which to try ordinary occurrences in school life.

A simple code of School Rules would supply the standard required. Teachers using the code would have a means of trying the commoner offences against the proprieties of school conduct without referring to their own will as the law. The odium attaching to the framer of an unpopular enactment is thus avoided, and the scholars can only blame the rule itself. By this means a Teacher's individual opinion, as expressed in the form of a regulation, is appealed to only on rare occasions, and those of an important nature. His influence is consequently not wasted upon matters of trifling weight. Should the Teacher feel himself to be weak in governing power, the School Rules will assist him in maintaining his authority. A person of passionate or vehement temper would be greatly restrained by them, and punishment generally would be more moderate in its nature and better proportioned to the gravity of offences.

To the pupils such rules would be equally useful. The written law, known and understood by all, affords no excuse for disobedience. A cunning lad cannot evade obedience by pleading either ignorance or want of comprehension; neither can he insinuate that a law which applies to all and is generally respected is arbitrary. When a law is the mere expression of a Teacher's will, it may be deemed partial or framed to punish certain individuals only. But when it stands as part of a written code, its general application deprives it of any personal aspect and gives it an appearance of abstract right. This is a point of great importance, especially in a large school. Respect for law, as law, is a most valuable characteristic of any people, and is one of the most momentous lessons which it is the duty of the school to inculcate. A further advantage is that the law is invariable. The mood of the Teacher is no longer the measure of the heinousness of an offence. The punishment is equally fixed both as regards extent and severity.

It happens far too frequently that parents are at issue with Teachers with respect to the government of schools. It is not intended by this remark to enter upon the defence of those querulous mortals who see all the Teacher's failings through a magnifying glass. Neither is it designed to excuse those weaker and more mischievous people who spoil their children by over indulgence, and look upon an honest Teacher as an enemy, because he endeavours to root out some of the ill weeds which grow apace under the fostering influence of their neglect. But some parents, judicious ones too, complain of the inconsistency and unevenness of the government of a school. They will tell you that a fault which is overlooked to-day may be severely punished to-morrow, that one boy escapes with a reprimand while another for the same offence is caned, and that the children's notions as to the gravity of a particular offence are confused by the master's want of constancy in dealing with those who are guilty of it.

These considerations go to show that a code of school rules judiciously framed would be a benefit to Teachers, pupils, and parents. But it may be well to point out the nature of the regulations which would be fit to be placed in the hands of children.

In the first place, they should not be too numerous. First, because they will be difficult to remember. In the second place, their relative importance will not be perceived by children. Further, in a lengthy code there is danger of creating too many *artificial* offences—actions not wrong in themselves, but made so by being prohibited. These prohibitions frequently rouse in the children's minds a sense of unjust treatment, which tends to encourage disobedience. Of course, such a feeling is much to be deprecated, and a sensible Teacher would gladly avoid any course of action likely to provoke it.

Secondly, the code should not be too exacting. Children bear repression up to a certain point and are benefited by it; beyond that it produces insubordination, sourness of temper, or what is worse than either—the sheeplike docility which accompanies want of sense and feeling. Let the rules comprise all that pupils may reasonably be expected to obey, and let the Teacher see that that they are rigidly observed. Over stringency either makes the government of a school brutal and tyrannical, or it destroys control altogether, by showing that the rules are not intended to be carried out in actual practice.

Thirdly, the subjects embraced in a code of school rules should include all the principal points of a schoolboy's conduct, and should be expressed as far as practicable as general principles rather than petty prohibitions. Boys are ingenious in splitting hairs; they would sometimes surprise even a barrister. So long as a boy can discover an excuse, however weak, for not observing a rule, so long will there be a temptation for him to disobey. Remove this temptation therefore by couching the rules in such general terms as leaves no loophole even to the most ingenious. But lastly, the language must be simple and explicit, for all, young and old, have to obey, and to this end they must understand.

We should be glad to see an experienced Teacher frame such a code and hand it to us for publication, for the benefit of the profession generally.

ANALYSIS OF SENTENCES.

(*Resumed from No.* 8.)

THE COMPLEX SENTENCE CONCLUDED.

106. For the present, little more remains to be said relative to the Complex Sentence. Those, who have followed our notes thus far, will have seen that Complex Sentences, with only one kind of indirect clause, are not uncommon, that is, sentences containing a principal clause combined with substantival clauses only, or a principal clause joined to adjectival clauses alone, or a direct clause attached to adverbial clauses only. These however do not constitute the sole forms of the Complex Sentence. Nor is it to be inferred that those do, in which *all* of the above subordinate clauses are fully represented. Sentences of the latter kind indeed are still less common than the others, though they are occasionally met with, as will be shewn.

107. The most common form of the Complex Sentence is that in which it is found containing two or more dissimilar subordinate clauses, that is, one adverbial and one adjectival, in addition to the principal clause, or two adjectival and one substantival, or substantival clauses mixed with those that are adverbial. Comparatively seldom are all present together.

108. For the benefit of our young readers, we may observe that all these varieties, though apparently unlike, have a common bond, and are as completely Complex Sentences as those in which each kind of indirect clause is present. With less of regularity and symmetry, there may still be more conciseness, with greater force and clearer expression.

109. We have said that Complex Sentences, containing the three kinds of subordinate clauses, are less frequently seen than the others. Still, they are met with; and some examples we propose to exhibit, before passing onward.

I. "*They do not err*
Who say that, when the poet dies,
Mute Nature mourns her worshipper."

General Analysis.

a. They do not err	Principal clause to *b*, *c*, and *d*.
b. Who say	Adjectival clause to *a*.
c. That mute Nature mourns her worshipper	Substantival clause: object to *b*.
d. When the poet dies	Adverbial clause of time to "mourns:" *c*.

II. "*Some persons contend that, if rents were lowered, the farmers, who are opulent, could afford to pay higher wages to their dependants.*"

General Analysis.

A. Some persons contend	Principal clause to *b*, *c*, and *d*.
b. That the farmers could afford to pay higher wages to their dependants	Substantival clause: object to *A*.
c. Who are opulent	Adjectival clause to "farmers:" *b*.
d. If rents were lowered	Adverbial clause: condit. to *b*.

III. "*The lady, who was very kind hearted, as soon as she heard of this resolve, cried out mournfully, why will you leave us?*"

General Analysis.

A. The lady cried out mournfully	Principal clause to *b*, *c*, and *d*.
b. Who was very kind-hearted	Adjectival clause to "lady:" *A*.
c. Why will you leave us	Substantival clause: object to *A*.
d. As soon as she heard of this resolve	Adverbial clause to "cried:" *A*.

IV. "*Oh! Youth is like the Springtide morn,*
When roses bloom on Jordan's strand,
And far the turtle's voice is borne
O'er all Judea's echoing land!
When the delighted wanderer roves
Through cedar woods and olive groves,
That spread their blossoms to the day,
And climbs the hill, and fords the stream,
And basks him in the noontide beam,
And cries, mid his delicious dream,
Oh! I would live alway."

General Analysis.

A. Oh! Youth is like the Springtide morn	Principal clause to *b*, *c*, *d*, *e*, *f*, *g*, *h*, *i*, and *k*.
b. When roses bloom on Jordan's strand	Adverbial clause of time to *A*: co-ord. to *c*, *d*, *f*, *g*, *h*, and *i*.

c. And (when) far the turtle's voice is borne O'er all Judea's echoing land	Adverbial clause of time to *A:* co-ord. to *b*, *d*, *f*, *g*, *h*, and *i*.
d. When the delighted wanderer roves through cedar woods and olive groves...	Adverbial clause of time to *A:* co-ord. to *b*, *c*, *f*, *g*, *h*, and *i*.
e. That spread their blossoms to the day	Adjectival clause to "woods and groves:" *d*.
f. And (when he) climbs the hill	Adverbial clause of time to *A:* co-ord. to *b*, *c*, *d*, *g*, *h*, and *i*.
g. And (when he) fords the stream	Adverbial clause of time to *A:* co-ord. to *b*, *c*, *d*, *f*, *h*, and *i*.
h. And (when he) basks himself in the noontide beam...	Adverbial clause of time to *A:* co-ord. to *b*, *c*, *d*, *f*, *g*, and *i*.
i. And (when he) cries, mid his delicious dream	Adverbial clause of time to *A:* co-ord. to *b*, *c*, *d*, *f*, *g*, and *h*.
k. Oh! I would live alway	Substantival clause, object to "cries:" clause *i*.

110. It will be observed in the following examples:—

I. That, in the case of three of the number, as there is but one of each kind of subordinate clause, there can be no co-ordinacy among them.

II. That co-ordinacy among principal clauses in Complex Sentences can have no existence, for the simple reason that there can be but one only in the longest sentence.

111. We have not, in the above examples, given the detailed analysis, because it was hardly necessary, there being no new features differing from those given in the previous issues of the Journal.

112. The whole application of subordinate clauses in Complex Sentences may be thus summed up.

I. The Substantival Clause is concerned with the Subject, Object, Enlargement of the Subject, Enlargement of the Object.

II. The Adjectival Clause is concerned with the Subject, Object, and Extension of the Predicate.

III. The Adverbial Clause is almost solely concerned with Extensions of the Predicate.

113. From this it may be inferred that the uses of indirect clauses in the Complex Sentence are both extensive and varied. Their relative importance, elegance of form, and appropriateness

in application, must however depend upon the composer. Some authors use very largely the adjectival clause, others the substantival, while more affect the adverbial; but in all cases the difference of style is such as to give a peculiar character to their writings. This however may be again reverted to.

114. We give a few passages for analysis, as Complex Sentences, containing subordinate clauses.

"The skill, which is everywhere conspicuous, is calculated, in so vast a proportion of instances, to promote the happiness of living creatures, and especially of ourselves, that we can feel no hesitation in concluding that, if we knew the whole scheme of Providence, every part would appear to be in harmony with a plan of absolute benevolence."

"When you have done all that I require, I shall then say that I am satisfied."

"Persuaded that she would not attend, I, who have waited until patience is exhausted, can no longer restrain my indignation."

"Breathes there the man with soul so dead,
Who never to himself hath said,
'This is my own, my native land!'
Whose heart hath ne'er within him burned,
As home his footsteps he hath turned
From wandering on a foreign strand."

"Arms and the heroes, who from Lisbon's shore,
O'er seas, where sail was never spread before,
Beyond where Ceylon lifts her spicy breast,
And waves her woods above the watery waste,
With prowess more than human forced their way
To the fair kingdoms of the rising day.
What wars they waged, what seas, what dangers passed,
What glorious empire crowned their toils at last.
Venturous, I sing, on soaring pinions borne."

"Startled at the stillness broken, by reply so aptly spoken,
'Doubtless,' said I, 'what it utters is its only stock and store,
Caught from some unhappy master, whom unmerciful disaster
Followed fast, and followed faster, till his songs one burden bore,
Till the dirges of his hope, that melancholy burden bore—
Of Never—Never more.'"

"Thou holy harp of Judah's land,
That hung thy willow boughs upon,
Oh! leave the bowers on Jordan's strand,
And cedar groves of Lebanon,
That I may sound thy sacred strings,
Those chords of mystery sublime,
That chimed the songs of Israel's king,
Songs that shall triumph over mine."

"Room for the leper! Room!" And aside they stood,
Matron, child, and manhood—all
Who met him on his way, to let him pass,
While onward through the open gate he came,
A leper with the ashes on his brow,
Sackcloth about his loins, and on his lip a covering,
Stepping painfully and slow, and with a difficult utterance,
Like one whose heart is with an iron nerve pressed down,
Crying "unclean! unclean!"

"Oh! World, though few the years we live,
Would that the life, which thou dost give,
Were life indeed."

A SYSTEM OF TEACHING ARITHMETIC.

[*Continued from page* 196.]

[*We have considered it desirable, in order to draw attention to variout methods of teaching and to evoke discussion, to afford contributors opportunities of stating their views on such points; but it should be understood that the Conductors of this Journal do not necessarily identify themselves with the opinions so expressed.*]

COMPOUND RULES.—In teaching Arithmetic, it will be found an excellent plan to accustom the pupils to apply every rule to all the purposes to which it can be put. In this way a considerable part of every new rule will be so anticipated, as to leave but few new difficulties to be encountered in it. By the adoption of such a system, the particular points to be borne in mind by the learner, will be so narrowed, as to be within easy grasp of the young mind. Thus, if a child is accustomed to apply the table of multiplication while learning it, in the way indicated in a former part of this treatise, he will find but little difficulty in learning the way to do Short Division. And if Subtraction and Multiplication be intelligently taught, the difficulties of Long Division will be reduced to a comparatively narrow compass.

COMPOUND ADDITION in the same way, will have been so far anticipated that the pupil will be able to master it after a few hours' instruction. He has to be shown that ¼d., ½d., ¾d. stand for one farthing, one halfpenny, and three farthings respectively, and he will at once tell how many farthings contained in any line set before him; then, because he has been accustomed to tell, while learning four times in the tables of multiplication, how many pence in any number of farthings, he will now tell how many pence the whole line comes to. In the same way, the pence may be added up by any one accustomed to add up numbers in Simple Addition with facility; and as the application of 12 times is thoroughly understood, he can at once tell how many shillings they are. The same method being adopted with shillings, the pupil finds little difficulty in resolving them into pounds. But as any number of pounds will be only pounds, they are added up in the same way as Simple Addition.

Let us take for example £478 13s. 6¼d + £29 18s. 9¾d + £873 9s. 10½d. + £45 15s. 7¾d., + £127 4s. 11½d., which the pupil should be instructed to set down on the blackboard, placing the pounds under the pounds, the shillings under the shillings, the pence under the pence, and the farthings under the farthings, thus:—

£	s.	d.
478	13	6¼
29	18	9¾
873	9	10½
45	15	7¾
127	4	11½

The pupil now on being told that ¼ stands for a farthing, &c., will be able to read every item, which they should always do before commencing any other operation ; and from his previous knowledge of addition, tell his teacher that in the column for farthings, which should not be separated from the pence by dots, there are 11 farthings, which he knows, from his knowledge acquired while learning the tables, are 2¾d. Having been already aware that farthings must be placed under farthings, and pence under pence, the ¾ must be placed under the farthings column, and the 2d. carried to the pence and added in with them. These, the pupil finds, amount to 45 pence, which he knows are 3 shillings and 9 pence. Acting on the same principle as before, the 9 for the pence is placed under the pence, and the 3 shillings carried to the shillings, which, when added up, come to 62 shillings, equal to £3 2s. The shillings have to be placed under the shillings, and the pounds carried to the pounds, which are to be added np as before stated like Simple Addition, when the total will be found to be £1555 2s. 9¾d. It may be observed that in showing a child how this sum is done, there is a great deal of repetition ; but it should be borne in mind, that the judicious teacher will never spare repeating his reasons as he proceeds with the different operations he has to perform in working a sum. The repetition will fix the rules on the pupil's memory, and the working of the sum at the same time will, serve as illustrations by which the whole process becomes readily and thoroughly understood.

Compound Subtraction is equally easy of comprehension. Let us suppose the sum of £245 14s. 7¾d. to be deducted from £748 9s. 5½d. The pupils are to be reminded, that as in Simple Subtraction, the smaller or less sum is to be placed under the greater ; because we cannot take a greater from a less quantity. We therefore set the sum down on the backboard thus :—

	£	s.	d.
(Minuend)	748	9	5½
(Subtrahend)	245	14	7¾

Commencing our work at the right as usual, we find the ¾d. are to be taken from ½d., which cannot be done unless we add something to the ½d. But unless we add a similar amount to the subtrahend, we destroy the proportion the minuend bears to the subtrahend. Now, in order to keep up the relative proportion they bear to each other, we add a *penny* to each of them. If we add these two pence, the one to the 5d. the other to the 7d., the difficulty will still be the same. But in order to manage this part of the work, we change the penny to be added to the minuend into farthings, and as farthings are to be put with farthings, and pence with pence, the 4 farthings added to the minuend make that sum £748 9s. 5d. and six farthings, while the penny added to the subtrahend makes it £245 14s. and *eight* pence three farthings, instead of seven pence three farthings. There is now no difficulty in taking the 3 farthings in the subtrahend from the 6 farthings in the minuend. There will be three farthings remaining, which are to be set down. It is usual to tell the pupils to carry one to the pence; but it is much more intelligible to them to be told, that, because they added a penny or 4 farthings to the farthings in the minuend, they have now to add a penny to the subtrahend, which will make the pence 8 instead of 7. Now as we have to take this 8 pence from the 5 pence, we must have recourse to the same expedient as when at the farthings, and add a shilling, the next higher coin to the pence, to the minuend, and also a shilling to the subtrahend. We change the shilling for pence in the minuend, and as it now becomes pence we must add these 12 pence to the 5d., which will make 17 pence, from which the 8 pence may be taken, when 9 pence will be found remaining. Now, as we had to add a shilling to the 5d. so we have a shilling added to the subtrahend, which raised the 14 shillings into 15 shillings which have to be deducted from the 9 shillings. It is now found necessary to add a pound to the minuend and also to the subtrahend, and to proceed as before. When we come to the pounds, we proceed as in Simple Subtraction; because there is no higher coin mentioned.

COMPOUND MULTIPLICATION is readily performed when *simple* Multiplication and *compound* Addition are thoroughly understood. By the former we get the pupils to multiply the farthings, pence, and shillings, &c., by the digit to be used as a multiplier, and from their knowledge of the latter, we expect them to tell at once how many pence any number of farthings is, how many shillings any number of pence is, and also to know that the farthings over are to be set under the farthings, while the pence are to be carried to the pence, &c. If the pupils have been accustomed to give the component parts of numbers while committing to memory the Multiplication Tables, very little difficulty will be found in getting them to multiply by any number of digits, especially if Simple Multiplication had been properly explained and fully understood while learning how to do it. Let us suppose that one article cost £2 17s. 6¼d., and it is required to tell what 4975 articles will come to at the same rate. Such a question, put to a beginner, would fill him with despair; but let him try to find out the component parts, and his difficulty will be greatly lessened. We, however, will only ask him to multiply the £2 17s. 6¼d by 10, and then by other digits as an exercise, when the array of digits in this multiplier loses all its terror. Well, we will multiply it by 10. We ask the pupil, ten times one? Ten. What is this ten? Farthings. How many pence in ten farthings? 2½d. What would you do in Addition when the farthings came to 2½d? Set the ½d. under the farthings and carry the 2d. to the pence. What is the next digit to be multiplied? 6. How much is 10 times 6? 60. What is this 60? Pence. But we had pence to add to this number? Yes, 2d. carried from the farthings, which makes it 62. How much money is 62d.? 5s. 2d. What do we with these? Place the 2 pence under the pence and carry the 5 shillings to the shillings. What is the next to be multiplied? The 17s; which, when multiplied by 10, makes, 170s., to which are to be added the 5s. carried from the pence, when the sum will be 175s. How much money in 175s.? £8 15s. What are we to do with these? Set the 15 shillings under the shillings and bring the £8 to the pounds. What is the next digit to be multiplied? The £2 which, when multiplied by the 10, will be £20, to which we add the £8 when the sum will be £28. The whole product will then be £28 15s. 2½d. The only difficulty to be encountered now, is to get the pupil to find the component parts for large numbers. Let us recur to the number 4975. The pupil can ran readily tell the component parts of 100, = 10 × 10. Then for 1000. He will on the same principle perceive that 100 × 10 = 1000. But he wants to find for 4000. Then 1000 × 4 = 4000. But he wants further to find for 975. It may now be shown to him that by multiplying the product for 100 by 9, he will have the amount for 900; if he will multiply the amount for 10 by 7 he will have the product for 70; and in the same way by multiplying the cost of *one* article by 5, he will have the product for 5; and then these amounts when added together will produce the whole amount for 4975. Thus:—

£	s.	d.		
2	17	6¼		
		10		
28	15	2½	product by	10
		10		
287	12	1	„	100
		10		
2876	0	10	„	1000
		4		
11504	3	4	amount for	4000
2588	8	9	„	900
201	6	5½	„	70
14	7	7¼	„	5
14308	6	1¾	„	4975

When it is seen that the £2588 8s. 9d., £201 6s. 5½d., and the

£14 7s. 7½d. are found by multiplying the products of 100, 10, and 1 by 9, 7, and 5 respectively, and that these products added together give the amount required, the pupils can do any sum in Compound Multiplication.

(To be continued.)

GEOLOGY.

[*Continued from page* 244.]

To interpret the laws of nature as they have been impressed thereon by the finger of God, is a noble and elevating work. To study such interpretations, and compare notes with the great book which lies everywhere open before our eyes, is a more humble, but not less pleasing and improving occupation. No more originality is claimed for these papers on Geology, than what they may acquire by the passage of the ideas through the writer's mind, and the expression of those ideas in his own language. Their adaptation to the necessities of the "Journal of Education," will be the most anxious part of his task; and the desire to make them useful to teachers, will stimulate his mind to a degree of intensity, that will not unfrequently transform what is usually a pleasure into a temporary pain.

1. That part of the earth or terrestrial globe of which geology treats, is termed its *crust*.

2. This crust is generally supposed to have resulted from the cooling of a formerly incandescent body. Whether this hypothesis be true or not, it is a fact that the lower we penetrate into the depths of this crust, the temperature gradually increases.

3. The masses of which the earth's crust is made up, are termed *rocks;* and these rocks are of two kinds when viewed as regards their composition.

4. These two kinds of rocks are distinguished by their being composed of minute particles of the same mineral, or of two, three, or more different minerals aggregated together.

5. Those rocks which are composed of particles of the same mineral, are called *simple* rocks; as marble, which consists of grains of carbonate of lime without any admixture of other minerals.

6. Those rocks which are composed of two or more minerals are called *mixed* rocks; granite, for instance, which is made up of small crystals of quartz, felspar, and mica.

7. Another division of the rocks composing the earth's crust, is made from the manner of their formation: they are called *stratified* or *unstratified*.

8. The stratified rocks are also called *aqueous* or *sedimentary*, from their having been formed by the deposition of mineral particles at the bottom of some body of water—water always holding mineral matter in suspension.

9. The unstratified rocks are sometimes denominated *igneous*, from their supposed formation by fire.

10. A third nomenclature has been adopted from the supposed age of the rocks, or the order of their formation, as *primary*, *transition*, *secondary*, and *tertiary;* according to which denomination the primary rocks are the lowest of the sedimentary or aqueous, and immediately overlie the granitic rocks, which form a solid crust or basis upon which all the systems of stratification rest.

11. The transition rocks are those which lie immediately above the primary. The term implies that these rocks show signs of a change from primary into secondary, as regards their mineral character.

12. The secondary strata immediately overlie the transition strata, and are distinguished by their containing fossil plants and animals of different species from those now existing.

13. The tertiary strata are located immediately above the secondary, and contain remains of plants and animals differing only slightly from those now inhabiting the globe.

N.B.—The primary rocks are totally void of organic remains; and the transition strata contain few or no fossil plants, and no remains of animals higher than crustacea, shellfish, corals, and corallines.

14. All the loose and irregular deposits overlying the tertiary strata may be called *superficial accumulations.* They consist of irregularly deposited masses of clay, sand, gravel, and boulder stones.

15. The unstratified or igneous rocks, generally speaking, occupy a lower position in the earth's crust than the stratified rocks, though they are often seen overlying the latter, or separating the strata of which they consist, or forcing their way through these strata in veins, rents, or fissures.

16. These rocks (igneous) are divided into three principal kinds, viz:—*Granitic*, *trappean*, and *volcanic*.

17. The granitic rocks are reckoned the oldest of the igneous formations, as they are generally found underlying, or associated with, the oldest series of the aqueous rocks.

18. The trappean rocks are considered more recent in their origin, because they occur for the most part among the secondary and tertiary formations.

19. The volcanic rocks are the newest of the igneous formations, being generally found associated with the superficial accumulations which have been formed since the tertiary strata.

20. Derivation of the principal terms used in the previous part. Geology is devived from *ge*, the earth, and *logos*, a discourse. Incandescent, from *incandescens*, *incandesco*, *in* and *candesco*, *candeo*, *caneo*, to be white, to shine; hence incandescent, white, or glowing with heat.

Carbonate, from *carbon*, which is derived from the Latin *carbo*, a coal.

Mineral, from the French *mine*, a mine, or ore.

Granite, from the French *granit;* Italian, *granito*, grained.

Quartz, from the German *quartz*.

Felspar, or feldspar, from the German *feld*, field, and *spar*. Felspar is either *rockspar*, or *fel* is a contraction for field.

Mica, from the Latin *mica*, a grain or particle; *mico*, to shine.

Stratified, from the French *stratifier*, to stratify; Latin *stratum*, a layer, or bed.

Aqueous, from the Latin *aqua*, water.

Sedimentary, from the Latin *sedimentum*, which is from *sedeo*, to settle.

Primary, from the Latin *primarius*, *primus*, first.

Transition, from the Latin *transitio*, which is from *transeo*, to go over or across.

Tertiary, from the Latin *tertius*, the third.

Fossil, from the Latin *fossilis*, which is from *fodio*, *fossus*, to dig.

Crustacea, from the Latin *crusta*, a shell, or hard covering.

Igneous, Latin *igneus*, from *ignis*, fire.

Trappean, from the Swedish *trappa*, a stair.

Volcanic, from the Latin *Vulcanus*, the god of fire.

(To be continued.) GE.

HOW TO WRITE AN OFFICIAL LETTER.

(Continued from page 246.)

In all official relations, the only proper course, in cases of doubt, is to apply for directions to the officer at the head of the department. But this maxim must be acted upon with discretion, or the unfortunate officer will be overwhelmed with inquiries upon all kinds of frivolous subjects or upon matters respecting which there ought not to have been any doubt, if ordinary trouble were taken to ascertain the correct procedure. Before writing at all, a teacher, for example, should carefully examine all the documents in his possession which may be supposed likely to afford him the information desired. Should he fail to obtain it in this quarter, he may then apply to his superior officer.

In letters of this kind explicitness and precision of language are indispensable. How can an officer give a precise direction in response to an indefinite inqury? No officer who values his reputation would undertake such responsibility. It is possible that some persons may be deterred from writing in explicit terms by the fear of giving offence; others imagine that politeness requires them to describe their want by a wordy circumlocution. Both notions are mistaken. Heads of departments throughout the Civil Service are only too pleased to find their correspondents terse and definite, and they utterly abominate long-winded communications which hide a few grains of sense in a bushel of words.

Before writing, the subject should be jotted down on paper, the writer first asking himself "What question do I intend to put in my letter;" or, "What information do I wish to elicit?" Having settled this point to his satisfaction, he should next consider the object or purpose for which this information is required. He will then have noted two main divisions for his letter:—1. The inquiry itself; and, 2, The grounds of inquiry. Neglect of these precautions has led to the writing of some letters of a very futile description. The following is an example:—

Mount Pleasant,
31*st July*, 1868.

Sir,

I have the honor to request that you will be good enough to inform me if I may close my School for three days, having urgent business to attend to.

I have the honor to be,
Sir,
Your most obedient Servant,
JOHN JAMES.

The Inspector of Schools.

This, though only an imaginary letter, is a true type of a large number that are actually written. The writer might as properly have asked permission to close *x* school, for *y* days, for *z* purpose. Of course, the Inspector is obliged to write to Mr. James inquiring—1. What school he refers to; 2, which particular three days he means; and, 3, what, in general terms, is the nature of the business mentioned. In due time all the necessary information is obtained and an appropriate answer returned; but much time and trouble might have been saved had the writer duly considered what he intended to ask for, before penning his letter. A letter in the style of the following would have met the requirements of the case at once.

Provisional School, Mount Pleasant,
31*st July*, 1868.

Sir,

I have the honor to request that you will be good enough to inform me if the Local Committee are empowered to authorize me in closing this School on the 17*th*, 18*th*, *and* 19*th of August next, on which days urgent private business will require my presence elsewhere.*

2. *I have explained to the Local Secretary the nature of the business which needs my attention, and that gentleman has endorsed upon this letter his testimony as to its urgency.*

I have the honor to be,
Sir,
Your most obedient Servant,
JOHN JAMES.

The Inspector of Schools.

Endorsement.

Mr. James has informed me of the nature of the business to transact which he desires leave of absence, and I certify that it is of an urgent nature.

CHARLES CLERK,
Hon. Sec.

Similar mistakes are very frequently made in letters written for the purpose of preferring some request. They are so indefinite that the recipient has to guess at the thing desired, and he has either to waste time in conjecture or write again for explicit information.

Our examples have been restricted to letters of a simple character, but the same general principles will be found of equal use in writing the most elaborate. These latter, however, belong more properly to the domain of Composition, a branch of study upon which we have at present no desire to enter. We shall accordingly conclude our remarks upon Letter Writing with one more word of caution. It is this. Some people suppose that a Petition or a Memorial is, for some mysterious reason more effective than a letter, and that a request preferred in the former shape is less likely to be refused than if made in the latter form. How this delusion can be accounted for is not obvious, for it *is* a delusion. The granting of a request by a superior depends, not upon the form in which it is stated, but upon the reasons advanced in favour of the legality, the justice, the propriety, or the expediency of the course proposed.

THOMAS TAWSE: SCHOOLMASTER.

I.—Mr. Tawse "reaches his destination."

A sultry afternoon. The parched leaves drooped quivering in the heat. From the unclouded sky the sun shone fiercely through the glowing atmosphere, and his rays were reflected with scorching power from the soil. No refreshing breeze cooled the stifling air. Every living creature seemed to have retired for shelter from the oppressive glare, and the forest trees stood silent and motionless.

A dray drawn by oxen was on this day slowly moving along a country road. Even these patient animals felt the influence of the high temperature, and the usual combination of flogging and blasphemy by which creatures of their species are urged to their labour, failed to accelerate their speed. Every footfall raised a fresh cloud of dust which, floating in air long after the dray had passed, covered the driver with a coating of whitish clay powder, and served in a great measure to shroud the occupant of the vehicle from view. By the habiliments, the passenger was evidently a female; but a veil concealed her features, and it was impossible on account of the dust to discern even the material of her dress. Some distance in the rear was a pedestrian whose individuality was equally difficult to make out, dust having so overlaid his black clothing as to render it doubtful whether he was a gentleman or a tramp. The dust mixing with perspiration on his face, produced an effect which would lead a casual observer to decide in favour of the latter supposition.

"Did you succeed?" inquired the female, as the footman overtook the dray.

"No," he replied, "I followed the creek down for a considerable distance, but not a drop of water could be found—not even the sign of moisture."

"Oh!" she exclaimed, "this heat and thirst are insupportable: how unfortunate that we did not bring a supply of water with us. But who could ever imagine that one might travel ten miles without seeing so much as a ditch—not to speak of a running brook."

"You forget, my dear," he rejoined, "that we are not now in England. The heat you complain of should have helped you to realize that fact. For my part, I do not wonder that water is so scarce, for the temperature to-day is high enough to dry up a river. But have patience for a little while longer; we cannot be far from our destination."

The male speaker was Mr. Thomas Tawse, Schoolmaster, and his destination was the Government School at Murrorong, towards which he was then proceeding. He was a man of about middle height, and, under ordinary circumstances, with an intelligent expression of countenance. A skilful physiognomist might perhaps be able to detect in the lines of his face indications of a quiet determination and a settled purpose. Mr. Tawse had been trained to the profession of teaching in England, first as a Pupil-Teacher, and subsequently at a Training College. He had acquired some experience in the work of teaching and held a comfortable position in a country town; but his wife's health having exhibited symptoms of giving way, he determined under medical advice to seek a warmer and drier climate. He therefore emigrated to New South Wales, and after a brief delay in Sydney obtained an appointment to the Murrorong School. Mrs. Tawse, the lady seated on the dray, was at the time of her marriage—some three years before the date of this journey,—a simple English girl who won her husband's heart less by her comeliness of feature than by her native good sense and amiable disposition. While by no means inattractive, her personal advantages consisted mainly in her thick tresses of rich brown hair, and her dark, but not black, eyes. Those eyes, while they under all circumstances indicated sympathy with those with whom she came in contact, were most remarkable for their expression of candour and honesty, and gave to her face an air of truthfulness that spoke volumes in her favour with all but the very perverse. Although the dry Australian climate had already mitigated some of the worst symptoms of her complaint, Mrs. Tawse felt exhausted with the fatigues of the journey and the warmth of the day, and while she suffered greatly from thirst, she also felt much anxiety for her infant which all a mother's solicitude failed to guard from the effects of the heat and dust.

The conversation before recorded, took place just as the dray reached the summit of a rising ground, and Mr. Tawse pointed exultingly to the glorious prospect that then opened to the view.

The road had lain for some miles along the lower slopes of a range of hills which bounded the western margin of a river valley, and from the top of one of these ridges, from which the timber had been partially cleared, the party looked forth upon an extensive landscape. Below lay a vast alluvial flat apparently in a high state of cultivation and covered with growing crops, the vivid green of which contrasted pleasingly with the more sombre trees clustered about the farm houses which dotted the plain. A considerable river ran winding through the flat, sometimes spreading into broad reaches, at others contracted into a narrow channel, the sides of which were marked by dark lines of river-oaks interspersed with the lofty and glistening white gums. In the distance rose a range of steep and rugged hills that bounded the valley upon the opposite side, and the tops of which were tinged with a bright purple hue.

The wayfarers enjoyed the scene in silence for some moments, when the bullock-driver came up and pointed to a building lying in a slight hollow, some hundred feet below, and at a distance of about a quarter of a mile. " That's the school," he remarked bluntly, but not uncivilly. " We'll be there in half an hour."

At a distance the building pointed out looked picturesque enough. It looked as if painted white, and being partiallyhidden by the dark foliage of the trees, gave the spectator the idea of a pleasant home. Mrs. Tawse gathered comfort from the driver's announcement, and began crowing to her baby in that unintelligible dialect which, though not understood by adult, men appears to go straight to the heart of a child. A similar effect was produced upon Mr. Tawse. His face brightened up, his step regained its wonted elasticity, and his whole bearing became more animated under the exhilirating influence of hope.

Another half-hour's travelling brought them as near to the building as the dray could approach. Mr. Tawse and his wife glanced at the structure, and their hearts fell within them at the spectacle. A look into each other's face was sufficient to show their disappointment and the shattering of their hopes. The schoolroom and the two apartments constituting the Teacher's residence were all under one roof. The building was throughout constructed of weatherboard and was once white. Now the shutters were hanging loose beside the windows, the glass was broken, and the paint dried off the walls, giving an air of dilapidation and wretchedness which, easily perceptible by all, is peculiarly striking to persons newly arrived in the colony. The miserable aspect of the building externally was not compensated by any redeeming features in its plan. Mrs. Tawse who had seen the great London Exhibition, thought that if some of the huge packing cases forwarded on that occasion could be placed there, and some one would cut out a few square holes, a dwelling equal in appearance to that before her would be the result. There was no fence, no trees, no flowers. There was nothing to indicate that the place had ever been inhabited by a civilized being. There was an utter absence of all the accessories by which we distinguish a home.

"Perhaps it is better inside:" thought Mr. Tawse as he moved to the door. It was locked. He then remembered the letter in his pocket, and the names of the Local Board. Looking round to see where they lived, he observed for the first time that no other houses were visible. Engrossed with the contemplation of his own residence, he had forgotten to look for others till this moment.

"Where are the houses?" he inquired of the driver.

"Houses?" said the latter; "There's no houses nearer nor Mr. Sharp's, and that's half-a-mile away. But what do you want?"

"I want to get into the house," said Mr. Tawse.

"Oh, is that all!" And therewith the good-natured driver pushed open a window, got inside, forced the lock, and opened the door.

The two rooms were in an indescribable state of filth. The last occupants had left them in such a condition as to warrant the belief that they had not been cleaned for months. The walls were begrimed with smoke, and the floors covered with dust and litter. In the chimney corner stood a black bottle that had been made to do duty for a candlestick. On the hearth were the ashes accumulated apparently from the fires of weeks. In several places on the wall hung remains of engravings, taken from the *Illustrated London News*, and the bedroom was decorated in a similar fashion. The damp, musty odour, peculiar to rooms long disused, was strongly perceptible, and combined with the dirt to inspire a feeling of disgust in the minds of the new tenants.

At this fresh trial, Mrs. Tawse almost broke down. How could she place her poor little child in such a pigstye? The open air, with the sky for a roof, was sweeter and more wholesome. A glance at her countenance revealed to Mr. Tawse what was passing in his wife's mind, and as he could not honestly offer any consolation, he set about opening all the doors and windows of the place, more for the purpose of concealing the extent of his own disappointment than with the view to admit the fresh air into his new home. The sturdy bullock-driver here proved of great service.

"Now, mister," he cried out, "you'd better see arter them traps of yourn:" and then he began rapidly to release his cattle from the yoke, and fasten the bells round their necks. This operation completed, he took his spade and carried out the ashes from the hearth, collected some dry wood, and lit a fire. Dick had understood the state of things from the first, and was intent upon doing all in his power to help the young couple. "We'll soon have the place a bit tidy;" he remarked, as, in default of a broom, he roughly but effectively swept the floor, with some leafy branches from a shrub that grew near. His example was inspiriting, and Mrs. Tawse occupied herself in removing the more prominent nuisances from the walls and windows, and almost forgot her troubles in her endeavours to purify the place.

In half-an-hour's time a considerable alteration in the appearance of the interior had been effected. "Now," said Dick, "I'll bile my pot of tea; but stop—I must get some water first. If you've got a bucket handy, missus, I may as well bring you some too."

Dick's expedition in search of water took him half-an-hour. Meanwhile Mr. Tawse had unloaded his goods, and arranged his scanty furniture as well as circumstances permitted, and his wife made preparations for their evening meal.

"Water's not very good," Dick observed, as he brought in a bucketful of a thick brown liquid; "but it's better nor none at all. Dessay it'll settle by and by."

"Is that the sort of water we have to drink?" exclaimed Mrs. Tawse, with a glance at her baby. "And how can a girl wash with that stuff?"

"Well, you see," responded Dick gravely, "most people puts a little hallum in the water overnight, and it gets clear by morning."

"But does not the water taste of the alum?" Mrs. Tawse inquired.

"It do taste a bit at first," Dick replied, "but you soon gets used to it."

Mr. Tawse thought the alum admixture neither likely to gratify the palate nor assist the digestion, but prudently kept the opinion to himself, and helped to strain the water through a thick towel which Mrs. Tawse had taken out of her trunk. Having surmounted this difficulty, Mrs. Tawse boiled the water, and the whole party took their supper, Dick having received a special invitation. Seated on boxes, with the floor for a table, Mrs. Tawse mentally compared their position with that of families she had heard of as living in the back slums of London; but Dick, contrary to his wont, gossiped incessantly about drays, bullocks, and feed, and by his quaint remarks tickled the fancy of his hearers, and almost beguiled them into forgetfulness of their state.

By the time their meal was finished, the sun had set, and Dick bidding them good night, went off to his usual couch under the dray. Mrs. Tawse made up a bed on the floor for her baby, having for the first time in its life omitted its accustomed bath. But the water was really too muddy to be allowed to defile its tender skin. Fortunately the baby was sleepy, and not disposed to quarrel with the omission. The teacups were washed up, and the place made as tidy as possible; and, having no candles to burn, the young couple sat down on the door step watching the last faint gleams of the fading twilight.

Now that the bustle of the day was over, and their attention was no longer engaged upon active duties, the thoughts of both reverted to their miserable plight. Mrs. Tawse, after vainly struggling with her pent up feelings for a few minutes, could no longer control her emotion, but dropping her head upon her husband's shoulder, she exclaimed, "Oh, Tom!" and gave way to a burst of passionate grief. Mr. Tawse intuitively divined the current of his wife's thoughts, but was not sufficiently master of himself to attempt to administer comfort; he could only press her hand in his, as a sign of his sympathy with her sorrow. There was little selfishness in their grief. Mrs. Tawse, though dejected on account of the unexpected privations to which she was forced to submit, felt more on account of her husband and child. That, for her, he should have given up his comfortable home and respectable situation to be placed now in a position which a common labourer in England would despise, was a consideration which gave her exquisite pain; and this idea predominated over even her regretful recollection of the pretty cottage, ivy-covered and flower-adorned, which she had left. Mr. Tawse, on his part, reproached himself for bringing his delicate wife to such an inhospitable region, and felt for a time deep anger and resentment against those who had sent him to a place so distant as Murrorong from the comforts and amenities of civilized life. While thus sitting hand in hand, silently wrapt in thought, the darkness rapidly fell around them, and the stars shone out clear and brilliant from the deep blue vault of heaven. In the west, Venus lit up the sky with her mild radiance which illumined the mountain tops like faint moonlight. A gentle breeze stole up the valley, cooling the atmosphere and slightly stirring the trees which before stood sombre and motionless as if deprived of life, but now dispensed through the air their aromatic odour. The small fireflies circling round a low bush before the door showed their tiny lamps of red, blue, and green light, while the larger lantern beetle wheeled his rapid flight around the house. The shrill cry of the bat as it darted through the air chimed in with the chirp of the mole-cricket, and from a tree at a little distance burst forth the joyous song of "Cuckoo, cuckoo."

The exceeding beauty of the evening tranquillized the minds of both, and after a few inquiries from Mrs. Tawse as to the strange behaviour of the Cuckoo in singing at night, which her husband duly explained, they were able calmly to discuss their position and to arrive at a decision as to their future.

(To be continued.)

RUDIMENTS OF LATIN.

Exercises in Lessons II., IV., and V.

9. The girl irritates the black she-wolf. The queen praises the good lady The little girl sets free the wild beast. The bad queen condemns the good lady. A great she-wolf attacks the little girl. The beautiful girl points out the queen's white dove. The woman blames the good queen's little daughter. The excellent lady praises the red cheek of her pretty daughter. The yellow dove pleases the girl. The wicked woman rouses the very big she-wolf.

13. The rough bull torments the black wolf. The good servant ploughs the field. The cunning wolf blames the timid lamb. The master condemns (his) bad servant. The armour-bearer is wounded. The armour-bearer is cured. The beautiful lady's father-in-law is sick. The south-west wind is rough.

The cunning ass is hidden. The slave ploughs the tenth field. The smith loves his beautiful daughter. The little garden is narrow. The red she-wolf irritates the black bull. Our field is a long one. The queen's son-in-law loves the beautiful lady's daughter. The little ass ploughs the rough field.

16. A good boy is liked. The boy is first; the girl second. Our slave carries a long bench. The empire is just. The queen's white dove is wounded. The son of the sick slave loves his master. The second branch is a long one. The servant carries the master's timid little daughter. The master praises the queen's little gift. The smith's large cup is hidden.

11. Servus egregium herum fraudat. Dominus hortum parvum dat. Tertius servus asinum comparat. Agnus albus (or, agna alba) pulchram puellam amat. Pulchra puella agnum album (or, agnam albam) amat. Est magnus lupus. Est timidus agnus. Herus gladium longum monstrat. Primus annus est. Bonus servus portam angustam laudat.

15. Taurus unum oculum habet. Oculus tauri niger est. Faber pulchram albam columbam habet. Puer est amatus. Bona domina laudata est. Reginæ timida columba vulnerata est. Rosetum secundæ puellæ plenum est. Fabri parvum poculum plenum est. Servus malus vulneratum asinum fatigat. Servus dominæ magistri socerum fraudat. Tenera puella magistri vinum non amat. Filius ægræ feminæ columbam sacram portat. Parvus reginæ hortus fabri filium delectat. Lupus asper album agnum oppugnat. Magnus Liber vinum bonum dat. Puer Luciferum monstrat. Aper vulneratus est. Egregius arbiter justus est. Regnum est magnum. Reginæ socer magnum regnum habet. Primus servus dominæ campum soceri arat.

LESSON VI.

VOCABULARY.

Nominative.	*Genitive.*
Animal N, *an animal.*	Animālis, *of an animal.*
Canis M, *a dog.*	Canis, *of a dog.*
Flos M, *a flower.*	Flōris, *of a flower,*
Frater M, *a brother.*	Fratris, *of a brother.*
Homo M, *a man.*	Hominis, *of a man.*
Labor M, *labour.*	Labōris, *of labour.*
Lex F, *a law.*	Legis, *of a law.*
Lux F, *light.*	Lucis, *of light.*
Mare N, *a sea.*	Maris, *of a sea.*
Mater F, *a mother.*	Matris, *of a mother.*
Pater M, *a father.*	Patris *of a father.*
Robur N, *an oak.*	Roboris, *of an oak.*
Rex M, *a king.*	Regis, *of a king.*

ACCIDENCE.

The genders of the words in the Vocabulary are denoted by M for masculine, F for feminine, and N for neuter. The Accusative case may be found in the words of the masculine or feminine gender by taking away the syllable *is* from the Genitive and substituting the syllable *em*. For example—

Genitive	*Accusative.*
Homin-is	Homin-em.
Patr-is	Patr-em
Flor-is	Flor-em.

The Accusative case is like the Nominative in all neuter words. For instance—

Nominative.	*Accusative.*
Animal	Animal
Mare	Mare
Robur	Robur.

Adjectives which end in *is* have the same form for the masculine and feminine, and another form for the neuter: *e.g.*

Masculine.	*Feminine.*	*Neuter.*
Facilis, *easy*	Facilis, *easy.*	Facile, *easy.*
Crudelis, *cruel.*	Crudelis, *cruel.*	Crudele, *cruel.*
Fortis, *brave.*	Fortis *brave.*	Forte, *brave.*

EXERCISES.

17. Write out the accusative case of all the words in the vocabulary.

18. Write out the genitive and accusative cases of the words in the following phrases—
Bonus rex. Flos pulcher. Animal maximum. Femina crudelis. Mare latum. Homo sagax.

19. Translate into Latin—
A tender mother. A black animal. A red flower. The queen's dog. The father's son. The law of the kingdom. The lady's beautiful flower. The brave smith's labour. The tender mother's daughter. The cruel king's beautiful daughter. The good queen's just law. A narrow sea.

LESSON VII.

VOCABULARY.

Amant, *they love.*
Culpant, *they blame.*
Dant, *they give.*
Delectant, *they please.*
Fatigant, *they tire.*
Fraudant, *they cheat.*
Irritant, *they irritate.*
Laudant, *they praise.*
Liberant, *they set free.*
Monstrant, *they show.*
Oppugnant, *they attack.*
Portant, *they carry.*

Brevis, *short.*
Dives, *rich.*
Dulcis, *sweet.*
Felix, *happy.*
Fidelis, *faithful.*
Infelix, *unhappy.*
Ingens, *huge.*
Levis, *light.*
Mitis, *meek.*
Omnis, *all.*
Sagax, *wise.*
Tristis, *sad.*
Turpis, *base.*
Utilis, *useful.*
Velox, *swift.*

ACCIDENCE.

The verbs in this vocabulary are all of the third person, plural number, and present tense. They all terminate in the letters *nt*. The adjectives ending in *x* or *ns* have the same form in the nominative for every gender. For example—

Asinus velox, *a swift ass.*
Columba velox, *a swift dove.*
Animal velox, *a swift animal.*
Canis ingens, *a huge dog.*
Lupa ingens, *a huge she-wolf.*
Animal ingens, *a huge animal.*

The genitives of such words are formed thus—

Nominative.	*Genitive.*
Ingen-s	Ingen-tis
Feli-x	Feli-cis
Velox	Velō-cis.

EXERCISES.

20. Write out the genitives and accusatives of the words in the vocabulary.

21. Give the English of—
Pater sagax est. Rex est dives. Regina tristis est. Est canis dominæ. Aqua maris clara est. Robur florem habet. Frater reginæ canem ingentem habet. Femina mitis est. Irritant fidelem canem. Laborem hominis laudant. Robur ingens portant. Felix pater tristem filiam amat. Canis fidelis patrem domini delectat. Turpem armigerum culpant. Turpis armiger socerum regis culpat. Lupus vafer canem parvum fidelem excitat. Mitis asinus utilis est. Gladius brevis est; longa est sagitta. Rex noster fortis est. Noster fortis rex ingentem lupum oppugnat. Servus nostræ matris divitem generum fraudat. Tristis puella vinum rubrum patris non amat. Lupus ingens parvam mitem agnam oppugnat. Fortis puer claram lucem monstrat. Lex vestra utilis est. Noster parvus frater Luciferum monstrat.

LESSON VIII.

VOCABULARY.

Æstimo, *I value.*
Amo, *I love.*
Aro, *I plough.*
Comparo, *I provide.*
Creo, *I make.*
Crucio, *I torture.*
Culpo, *I blame.*
Damno, *I condemn.*
Do, *I give.*
Delecto, *I delight.*
Excito, *I rouse.*
Fatigo, *I tire.*
Irrito, *I irritate.*
Laudo, *I praise.*
Libero, *I set free.*
Monstro, *I show.*
Numero, *I count.*
Nuntio, *I tell or report.*
Oppugno, *I attack.*
Porto, *I carry.*
Regno, *I reign.*
Rogo, *I ask.*
Spero, *I hope, or hope for.*
Voro, *I devour.*

Duo, *two.* Tres, *three.* Quatuor, *four.*

ACCIDENCE.

The plurals of the nouns and adiectives already given are formed in the manner here exhibited—

Singular.	*Plural.*
Columb-a	Columb-æ.
Insul-a	Insul-æ
Pessim-a	Pessim-æ
Domin-us.	Domin-i
Amat-us	Amat-i
Puer	Puer-i
Magist-er	Magist-ri.

In all these, the genitive singular and nominative plural are alike.

Singular.	*Plural.*
Don-um	Don-a
Amat-um	Amat-a
Animal	Animal-ia
Mar-e	Mar-ia
Robur	Robor-a.

These words are neuter; and the nominative plural of all neuter words ends in *a.*

Singular.	*Plural. (Nominative and Accusative.)*
Can-is	Can-es
Flor-is (genitive)	Flor-es
Fratr-is	Fratr-es
Homin-is	Homin-es
Leg-is	Leg-es
Felic-is	Felic-es.

The verbs given in the vocabulary are thus declined in the present tense.

	Singular.	*Plural.*
First person	Port-o, *I carry.*	Port-āmus, *we carry.*
Second person	Port-as, *Thou carryest.*	Port-ātis, *you carry.*
Third person	Port-at, *He carries.*	Port-ant, *they carry.*

EXERCISES.

22. Write out the plurals of all the words ending in *a*; those ending in *us* and *um*; and those ending in *is*, *o*, and *x*.

23. Write out the declension of the verbs in the present tense.

24. Translate into Latin—

I love good wine. The king loves good wine. The two wolves (mas.) are devouring the ass. The brave king sets free his three brothers. The happy daughters love their sad mothers. The two boys are pointing out the huge animals. We love all men. You irritate the huge bull. They tire the faithful dogs. I count the useful men. Thou carryest the mother's gifts. The timid doves love the light. We hope for rich gifts. The cruel wolves torture the unhappy bull. The swift dogs attack the great black wolf. We point out the master's father. Thou praisest the good king's brothers. Labour tires very large animals. Sweet flowers delight the eye. The three wolves devour the man.

(To be continued.)

RIVER BASINS.

A RIVER BASIN is the land which is drained by a river, and takes its name from the river; or it is the land drained by a number of rivers which flow into the same sea, ocean, or lake, in which case the basin takes its name from the name of the sea, or ocean, or lake.

The river basins form a very distinct and interesting feature in physical geography, and require the close attention of both teacher and pupil in the giving and receiving of lessons on this very important branch of primary instruction and education.

As the term watershed will have to be used in treating of this subject, it must be stated that it applies to the ridges of hills and mountains which cause the rainfall to flow in different directions. It is an irregular line along the tops of the hills which separate the various slopes of a country, and divides the river basins from each other.

The largest river basin in the world is that of the Amazon, which has an area of 2,275,000 square miles. The watershed of this immense area is formed on the north by the mountains of Guiana, and the high lands which separate it from the basin of the Orinoco. On the west by the Andes; and on the south by the elevated land which divides it from the basin of the La Plata. The direct length of this river from the source of the Apurimac, a branch of the Ucayali, to the ocean, is reckoned at 1769 miles, and including its windings, nearly 4000 miles. This river is navigable for large vessels as far as the confluence of the Ucayali, and for small craft to the very foot of the mountains.

Some of the branches or affluents of this stupendous flow of waters are themselves large rivers. The Madera which joins the Amazon 700 miles from the sea, has a course, before its junction, of more than 2000 miles. The Napo, Ica, Yapura, and Negro on the left bank, and the Huallaga, Ucayali, Yavari, Yutay, Yurua, Teffe, Purus, Tapajos, besides the Madera or Madeira above mentioned, on the right bank, are all rivers of first-rate magnitude. So great is the extent of the navigable rivers in this vast basin, that it has been calculated to afford an inland navigation of 50,000 miles. "The colossal dimensions of this water system," Professor Agassiz says, "can hardly be conceived, and surpass everything of the kind in the world." He tells us also that this region contains no hills, but consists of an immense expanse of wood and water known as the Selvas or Forest Plains.

This vast forest country is 1200 miles wide, and in some places 1800. It is so low and level that the fall from the Andes to the Atlantic, is not more than 250 feet, or two inches per mile. It cannot be compared to an ordinary river valley, and the river itself is different from all others in the world. Its mouth is 160 miles wide, and its mud tinges the ocean for a long distance. So great is the body of water which rolls between its banks that, notwithstanding the smallness of the decline down which it rolls, the freshness is perceptible 500 miles from the coast. When the snow melts on the Andes, in August and September, the rivers begin to rise; but it takes till March to affect the lower course of the main stream. The river is highest from June to October. The rise is not less than 30 feet, and sometimes exceeds 50 feet. By a singular operation of natural causes, the southern tributaries of the Amazon are fullest when those on the northern bank are lowest, and *vice versa.* There are times when the whole basin is under water, and the dense forests may be navigated. The colour of the water in the streams flowing from the Andes is turbid, a sort of cream colour, while that in the branches from the plains is black. These latter carry along such an immense amount of sediment, that the cream coloured streams produce no visible effect on the colour of the Amazon, which affects the ocean for 50 miles from the coast with its blackness.

The climate of this region is delightful: not hot like tropical Africa, or even like some parts of New South Wales. The nights are cool, because the Amazon runs from west to east in the face of the trade winds, so that cool breezes are continually blowing up the river. The average temperature is 82 deg., the highest 95 deg., and the lowest 72 deg. The fresh breezes make themselves felt every evening, and it is one of the most healthy and desirable of tropical regions. The steamers of the Amazon Steamship Company are so comfortable and well managed, that a trip to the foot of the Andes in them is as agreeable as an excursion on the Rhine in Europe, or to Brisbane in Australia. The forests would be a great field for lumbermen, the woods are so full of timber of the most exquisite varieties, there being 170 kinds of costly timber. There is not (or was not a year or two ago) a saw mill on the river, and great trees are cut down to make one plank, which is chopped out with a hatchet. One remarkable feature of the river is that it has no delta like the Mississippi, or the Nile, or the Ganges, notwithstanding that it carries such an immense amount of mud in its waters. This is explained by the fact that, owing to a combination of circumstances not yet unravelled, the ocean encroaches at a fearful rate on the continent north of the eastern promontory of Brazil. Above that point the coast of Brazil ran nearly north, so that a belt of two or three hundred miles has already disappeared. The Amazon once extended 300 miles beyond its present mouth.

HYDRO.

THE ATMOSPHERE.

II. ITS CHEMICAL CONSTITUTION.

The atmosphere was at one time supposed to be an elementary body. It has been proved, however, to consist of a mixture of various gases.

In 100 parts by volume, the composition of the atmosphere is very nearly as follows:—

Oxygen	20·61
Nitrogen	78·95
Carbonic Acid	·04
Aqueous Vapour	·4.

Very small quantities of Ammonia, Nitric Acid, and Ozone are also found.

The proportion of Aqueous Vapour is very variable, depending much upon the temperature.

USES OF THESE GASES.

1. OXYGEN.—This gas supports respiration in man and animals, and is part of the natural food of plants.

It is necessary to combustion. If there were no oxygen in the air, the combustibles with which we are most acquainted would be of no use.

2. NITROGEN.—The great use of this gas seems to be to dilute the oxygen. It weakens and prolongs its action on the system, as water dilutes spirits and assuages their too fiery influence upon the system. Were the atmosphere to consist of oxygen only, the lives of animals would be very short.

Nitrogen, by increasing the volume of the atmosphere without augmenting its active chemical properties, provides for the occurrence of winds, the tempering of the climate, the diffusion of heat, the disseminating of noxious vapours, and the maintenance of the air in a state of purity.

3. CARBONIC ACID.—It is from this gas that plants obtain their most abundant element—Carbon. It is to plants what oxygen is to man. The leaves and the green part of plants possess the power of decomposing Carbonic Acid, into its elements, Carbon and Oxygen. They appropriate the Carbon and give back the Oxygen to the air. It occurs only during the day, and to the greatest extent when the sun is shining brightly.

4. AQUEOUS VAPOUR.—If the atmosphere was perfectly dry, the evaporation from our bodies would be too great; the skin would become parched and shrivelled, and the system thrown into a fever.

About three-fourths of the weight of plants consists of water, and from the surface of their leaves, water is continually being given off to the atmosphere. If the air was absolutely dry, the process would go on too rapidly, and vegetable life would become extinct.

5. Ammonia.—A compound of nitrogen and hydrogen, descends to the earth with the rain, and entering the roots of plants supplies them with nitrogen, an element essential to their growth.

6. Nitric Acid.—A combination of Nitrogen and Oxygen, performs a similar service.

OXYGEN.

Symbol ○ or ⊖ Combining number 8 or 16. Density 1105 (air being 1000).

Note.—The second symbol and combining number refers to the new notation or Gerhardt's, now being generally adopted.

Name.—The word "oxygen" is derived from two Greek words—Oxys, sour or acid; and Gennao, I give rise to or produce. It means, therefore, the acid-producer. The name was given to it at a time when it was thought that all acids contained this element, and owed their acidity to its presence. We are now acquainted with several acids destitute of oxygen.

It was formerly known by the terms "Empyreal Air," "Dephlogisticated Air," and "Vital Air,"

Where found.—Oxygen is the most widely diffused substance in nature. It is an ingredient in all plants and animals. It enters into the composition of nearly all rocks. It forms one-fifth of the atmosphere by volume, and eight-ninths of water by weight. It is estimated that one-half of our planet is composed of oxygen.

How Prepared.—1. Dr. Priestly, who first succeeded in isolating this gas in 1774, procured it by heating red oxide of mercury. This substance consists of oxygen in combination with mercury, and by the action of heat the two elements become separated. This is a rather costly experiment, and is not now practised.

2. For ordinary purposes, the cheapest way of obtaining oxygen is to heat Black Oxide of Manganese in an iron retort or gun-barrel. Each atom of this substance contains one atom of manganese combined with two atoms of oxygen. At a red heat it parts with one-third of its oxygen.

3. The gas may be obtained in a state of great purity by the action of heat upon Chlorate of Potash. A few grains may be placed at the bottom of a test-tube, and the flame of a spirit-lamp applied. The salt melts and the oxygen may be seen bubbling through the liquid. Many other methods besides these are sometimes resorted to.

Properties.—All attempts to liquify or solidify this gas have proved futile. It is destitute of colour, taste, and smell. It is heavier than atmospheric air; 100 cubic inches weigh 34·29 grains. It is slightly soluble in water, and combines with all elementary substances except Fluorine. Its most remarkable property is its wonderful power of supporting combustion.

Experiments.—1. If a splinter of wood with a glowing spark be plunged into a jar of oxygen, it will at once burst into a flame. If it be blown out and introduced again it will be rekindled.

2. A bit of red-hot charcoal introduced into a jar of oxygen will burn with great brilliancy, throwing off beautiful scintillations.

3. A bit of sulphur ignited and affixed to a watch spring, when dipped into a jar of oxygen, exhibits a most beautiful phenomenon of combustion.

4. If a small portion of phosphorus be carefully dried and then ignited in a vessel containing oxygen, it burns with a brilliancy so intense that the eye can scarcely bear it.

The heat given out is very great, and frequently breaks the vessel. This experiment requires caution and care.

IMPORTANCE OF LITTLE BIRDS.

In our last issue we published an article on the "Game Protection Act" with the view that its leading provisions would be brought under the notice of the youth of the colony by those who are intrusted with their education, as we trust teachers are wont to do, whenever anything calculated to elevate the morals, dispel popular illusions, or assist progress—material or moral, appears in this Journal. It cannot be too strongly impressed on the minds of young persons that the havoc made among the winged tribes of the bush will be attended with very great loss to the country. Thoughtful persons have long seen this, but their warnings have been unheeded until the consequences of such reckless destruction have brought conviction when it is almost too late. People now find, not only in France, but throughout Europe, that in destroying little birds they were foolishly carrying on a cruel exterminating war against their best friends. Our readers, we suspect, are scarcely prepared for so painful a corroboration of our views as is contained in the following extract from the Paris correspondent of the *Sydney Morning Herald*:—

> PARIS, May 26.
>
> After all the gloomy forebodings with which we have been favoured upon the subject, there seems to be a strong probability of the crops, both here and through Europe generally, being uncommonly fine. But the dangerous ravages of locusts and other vermin are assuming such proportions that the authorities are employing the troops, as well as enlisting private effort, against these pests, on a large and more systematic scale than ever. Even in Italy, where funds are scarce and men hard to procure for work of this kind, enormous sums are being devoted to the killing of locusts and cockchafers. The *Journal de Sassari* (Sardinia), in mentioning the "strike" of the men thus employed, after an unwise reduction in the price paid for the insects, states that the offer of fifteen *sous* for every kilo (2 lbs.) brought in, was the destruction of 40 cwt. per day, so that the authorities found themselves obliged to disburse at the rate of over £100 per day. They then lowered the price to 10 *sous* per kilo, and the insect-gatherers threw up the work. "A day lost," says the journal cited, "means so many myriads of locusts rescued from extermination, and capable of overrunning the whole island. No one can form an idea of the thing without seeing it. If the hunt be not resumed to-morrow, every species of crop—corn, vegetables, grass, the young shoots of the vine, will be utterly destroyed throughout the entire plain of the Sassari. *So much for the insensate destruction of small birds, so ruthlessly carried on, for some years past, throughout Europe.*"

INTELLIGENCE.

EDUCATION IN ENGLAND.—The Education Bill introduced into the Imperial Parliament by the Disraeli Ministry appears to have excited considerable attention among Teachers in England. On Saturday, 16th May last, a deputation consisting of representatives of various associations and educational institutions, waited upon the Duke of Marlborough, Lord President of the Council, for the purpose of presenting a memorial dealing with several of the matters embraced in the Bill. The deputation consisted of E. Chadwick, Esq., some heads of Training Colleges and Teachers of Primary Schools. The following is a copy of the Memorial :—

"MEMORIAL to His Grace the Duke of MARLBOROUGH, Lord President of the Council, from Teachers and other Friends of Education residing in and around the Metropolis;

"Your memorialists desire very respectfully to tender to your Grace their thanks for the Education Bill which you have laid before Parliament, with very much of which they cordially agree. At the same time, they will, with your Grace's permission, point out very briefly what they consider to be some of its omissions and defects.

"They hail, as an important advance, the proposal to appoint a Secretary of State, or Minister of Education, implying the recognition of the principle that national education is important enough to be made the subject of the undivided attention of a Minister of State, and of a department devoted exclusively to education. They beg to express a hope that this appointment may be supplemented by the further appointment of permanent officers chosen under securities for their special qualifications in the actual work of education, so as to secure the confidence of practical educationists, and to sustain, individually, public responsibility for the executive details of administration.

"Your memorialists trust that the supervision of a Minister and a well-organised department may be extended over the whole field of education, secondary as well as primary, for the reasons set forth in the evidence contained in the Report of the Middle-Class Education Commission, to the effect that an improved secondary education must be based on a general system of improved elementary education.

"Your memorialists are, however, sorry to see that it is proposed to embody in the Bill so much of the Revised Code; because the experience, not only of teachers, but of every one engaged in elementary education, proves conclusively that the Revised Code, while it is unjust to the bulk of existing teachers, is ruinous to training colleges and small schools; that it has diminished the number and lowered the quality of pupil teachers; and has had generally a disastrous effect upon the education of the country. It is submitted, moreover, that it is inexpedient to make matters of detail the subject of statutory enactments, more especially in the present unsatisfactory state of elementary education. Much and frequent change will be required in details, and this will need great practical knowledge for devising, and much time—which Parliament cannot be expected to give—for judging them. It would seem, therefore, that these details should be left to the public responsibility of permanent executive officers, acting under the supervision of a Secretary of State or Minister of Education.

"Your memorialists hope, that by the better administrative arrangement, which a properly constituted department may be expected to devise and execute, the cases where unqualified teachers may be needed will be comparatively rare; but they are glad to find that in the new Bill a broad distinction is kept up between schools taught by certificated, and those taught by uncertificated teachers; for, in their opinion—and it is corroborated by the evidence collected by the Commissioners on Middle-Class Education—the due recognition and maintenance of a properly trained and duly qualified body of teachers is essential to any scheme of education, whether primary or secondary.

"Impartial testimony conclusively proves that training colleges, by sending forth a body of properly trained teachers, have done much towards improving elementary education, but the very existence of these institutions depends upon a due supply of suitable candidates. This supply has hitherto been kept up mainly by the pupil teacher system, which, of late, owing to the working of the Revised Code, has shewn symptoms of decay. Your memorialists are therefore disappointed at not finding in the new Education Bill any sufficient provision for the due maintenance of what the Commissioners of 1861 considered one of the best features of the present system.

"Your memorialists hope, that by the proper administration of educational and charitable endowments, applicable to elementary as well as to middle-class education, and by the improved administration of the ordinary existing means of education, the need of local rates for education will seldom arise; but should it arise, they trust that the consequences of local mal-administration, to which so much of the neglect and mismanagement of educational endowments in boroughs is ascribed, will be averted by a strong, well-organised, and responsible central authority.

"They would also beg respectfully to draw your Grace's attention to the unsatisfactory state of the teacher's position. A certificated master has at present no career before him. He has no opportunity, as in other professions, of raising himself by energy, good conduct, or long service; and they think it worth consideration whether some means may not be devised by which higher posts might be opened to those teachers who, through experience or ability, might be able to fill them. One means of doing this would be by the encouragement of the formation of school unions,—such as those established at Faversham,—which are so much needed for the sake of increased efficiency, as well as of increased economy. The post of Head-Master in such schools would be looked upon as one of the prizes in the profession. Another means of opening to elementary teachers a prospect of promotion would be afforded by Government sanctioning, under certain restrictions, the employment of certificated teachers in middle-class schools; and this would be acting upon some of the chief recommendations made by the Commissioners on Middle-Class Schools, and upon the important evidence collected by them."

Mr. Chadwick, Rev. J. G. Cromwell, and Messrs Sugden, Graves, Robinson, Imeson, and Roberts, having spoken on various topics refered to in the memorial, The Duke of Marlborough, in reply said:—"We have been very glad to hear the opinions of the gentlemen who have been here to-day to express their views on the important subject of education. Several of the topics which have been touched upon are matters of the greatest possible moment, especially is that the case with reference to the supply of pupil teachers. It is not to be denied that circumstances have arisen, and do exist, which have contributed to that falling off which has been alluded to, and that is a subject which must engage the serious attention of this department. With regard to the more immediate matter which has brought the deputation here to-day,—the new Government Bill,—I think some misconception exists as to the particular mode in which the Revised Code has been introduced into the Bill. It has been condensed, and some of its most important provisions have been placed in it; but it is only those which have been found by experience to work well which have been incorporated in the statute, and, consequently, a far greater amount of latitude is left to the Minister at the head of the education department than might at first be supposed to be the case. The Bill has been carefully drawn in order to leave him a large amount of discretionary power. There may be some points which have been introduced into the Bill upon which controversy may arise, and they will, consequently, become subjects for consideration during its progress through Parliament, and, possibly, some modifications may take place. With regard to an observation made by one of the gentlemen of the deputation,—I mean the want of confidence which he alleged was felt by the public in the gentlemen at the head of the education department, and they have thought that it would tend to secure greater confidence if those parts of the Revised Code, which have been found to work well, were put into the Bill, and I think it was wise to place them in such a position, as not to be open to misconstruction, or to be easy of alteration. With reference to making education less mechanical, improving the education of children, and also the education of the teacher,—these are are all matters of very great importance, and the Government will continue, whatever bill is passed, to direct their earnest attention to them. With reference to the position of the teacher, I fully acknowledge that it must be maintained. I am glad to hear what has been said about the united schools at Faversham; and I must say, that the argument to be deduced from that case appears to be in favour of the advantage of education under skilled management being left as much as possible to individual and voluntary efforts. The whole subject, however, is, not in a state of infancy, but in a state of transition and development, and experience will, of course, afford valuable results. At present, the evidence seems strongly in favour of the large school system, the pupils in which appear—in accordance with their opportunities—to be in a high state of efficiency. I have nothing further to add, gentlemen, except that I am glad to have had an opportunity of hearing your suggestions, and to assure you that they will receive the most attentive consideration on the part of the managers of this department." The deputation, having thanked his Grace for his courtesy, then withdrew, and the proceedings terminated.

NEW ZEALAND.—REPORT OF THE BOARD OF EDUCATION OF THE PROVINCE OF CANTERBURY, FOR THE YEAR ENDING MARCH 1868.

Since the date of last report, five new schools have come under the operation of the "Education Ordinance," of 1864.

The total number of schools which received aid from the Board during 1867 was fifty-two; of these, three were superior schools. Two of the ordinary schools have ceased to receive Government assistance.

The whole number of children on the books of the different ordinary schools during the year was 4039, being an increase of 518 on the year 1866. The average attendance was 1728; that of 1866 being 1549.

The amount of School Fees received during the year 1867 was £3354 14s. 4d., being an increase of £276 17s. 4d. on the amount received during the previous year.

The total expenditure on account of Education during the year 1867 including, besides the grants made by the Board, the school fees and money raised in the various educational districts for building and other purposes, amounted to the sum of £10,064 12s. 1d., of which the school fees amounted to the sum of £3,354 14s. 4d., and the money raised by private subscription for expenditure on buildings, and for the purchase of books, fittings, and apparatus, to £306 14s. 5d. If from this sum be deducted £1,091 2s. 4d., the amount spent on the maintenance of superior schools and scholarships, it appears that the total expenditure on ordinary schools, including the expenses of department, amounted during the year to £8,973 9s. 9d.

The number of children in average attendance being 1728, the average cost per child amounts to £5 3s. 3d., or a decrease of 18s. 2d. on the total average cost for the year 1866.

After deducting the amounts raised by school fees and local subscriptions from the gross total expenditue of £10,064 12s. 1d., it appears that £6,403 3s. 4d. has been paid out of the Provincial Treasury, which expenditure is distributed as follows :—

	£	s.	d.
Maintenance of Superior Schools ...	750	0	0
„ Ordinary Schools ...	3947	16	8
Expenses of Department................	653	16	0
Scholarships	341	2	4
Contingencies.............................	63	17	4
Establishment of New Schools.........	646	11	0
	£6,403	3	4

If the amount spent on superior schools and scholarships be deducted from this sum, the cost of the maintenance of ordinary schools has been to the province £5,312 1s., or at the rate of £3 1s. 6d. for every child in average attendance.

EDUCATIONAL RESERVES.

Some progress has been made in the preparation of the grants of land set apart as the endowment of a classical school, and it is expected that, as soon as the transfer to the Superintendent is completed, a considerable revenue will be created, sufficient at least to allow of the establishment of the institution.

The Board has represented to the Government the desirability of acting upon a resolution passed by the Provincial Council in a former session, to the effect that considerable reserves should be made as an endowment for ordinary schools, and that, in the mean time, application should be made to the General Government for Crown grants of those reserves already set apart for Educational purposes. The necessity for procuring some permanent source of income for the establishment and maintenance of schools was very strongly insisted upon by the Commission on Education so long ago as 1863, in contemplation of a falling off in the provincial revenue, such as that which has lately taken place. The Board renews the recommendation which it has from time to time made, that reserves as ample as possible should be made for this purpose. The plan of making reserves as endowments for schools has been adopted very largely in the province of Otago, and apparently with marked success.

SCHOLARSHIPS.

The examination of candidates for the six Government scholarships of 1867 took place in the month of June.

The results from the establishment of Government scholarships appear to be eminently satisfactory. Three of the junior scholars of 1866, and one of 1867, having been placed at one of the best of the district schools, it was found that they were so much in advance of the rest of the children receiving instruction there as to make it desirable, for the purpose of providing them with a course of instruction suitable to their attainments, as well as with a view of subjecting them to some competition, that they should be removed to a higher class of school.

The Board accordingly directed that letters should be addressed to the authorities of Christ College Grammar School, Christchurch and Lyttelton

High Schools, and Pigeon Bay School, to ascertain whether board, lodging, and tuition would be provided at these institutions, or any of them, for the sum payable on account of the scholarships, viz., £40.

The authorities of the Christ College Grammar School very liberally offered to take two of the scholars free of charge on account of tuition, but it was found on enquiry that the charge for board and lodging was considerably in excess of the sum available. On behalf of the High School at Christchurcn and the Pigeon Bay school, the charge of £40 per annum was agreed to ih consideration of the circumstances.

Efficiency of Schools.

A steady improvement, more particularly in the attainments of the junior classes, has been observable throughout the year. The inclemency of the weather during nearly the whole of that period, has doubtless retarded the progress of the scholars, especially in outlying districts, and there is reason to believe that, had not the province experienced an unusually severe season, the results would have been still more satisfactory. There is, however, one point to which the Board directs the attention of the school authorities. The Board has observed that, in several cases, the school registers are not regularly kept, and has issued stringent instructions to the several school committees upon the subject. It is obvious that unless great accuracy is insisted upon, the preparation of reliable returns is impossible. It is also desirable that a greater punctuality in forwarding the quarterly returns should be observed, seeing that irregularity in this particular, not only evinces a want of system in the internal management of a school, but creates much confusion in cases where it is necessary to compile a general statement of the position of the schools in the province.

In accordance with a resolution passed by the House of Representatives, steps have been taken, where practicable, to subject the boys in schools maintained wholly or in part by public funds to a course of military drill.

Twelve candidates for masterships have been examined, ten of whom have been found to possess the qualifications necessary to conduct small country schools or those of a superior grade. Two of the number received the greater part of their education at one of the ordinary schools aided by the Board. One was found to be capable of holding an assistant mastership, or of conducting a small country school; and although the attainments of the other were not in a sufficiently forward state to justify a certificate of competency being granted to him, yet the Board cannot but view with pleasure the indication thus offered, of a tendency on the part of scholars trained in the province to offer themselves as candidates for positions which have as yet been filled entirely by persons educated elsewhere.

The amount of books, maps, and apparatus disposed of out of the Educational depôt during the year is valued at £345 6s.

ORIGINAL CORRESPONDENCE.

(Writers of all communications intended for publication in this Journal must furnish us with their names, not necessarily for publication, but as a guarantee for good faith and correctness. The Conductors of the Journal are not responsible for opinions expressed by correspondents.)

To the Editor of the Australian Journal of Education.

Sir,—In the last number of your rapidly rising journal, you published some of the recommendations that have lately emanated from the Scotch Education Commissioners. In connection therewith, I have taken the liberty of enclosing an extract from the works of the late Lord Macaulay, referring to the Scotch Education System in the good days of old, when modern degeneracy had not reached it. Doubtless, it will be familiar to many of your readers, who may have perused it in its original form; but, there is equally little doubt it will be new to many others, not so privileged; and may haply afford a gleam of encouragement to some, who are devoting their energies to the making a history, and building up a nation for the great island Continent of Australia.

I am, Sir,
Your obedient Servant,
J. L. K.

National Education in Scotland.—By far the most important event of the short session of 1696 was the passing of the Act for the settling of Schools. By this memorable law it was, in the Scotch phrase, statuted and ordained that every parish in the realm should provide a commodious schoolhouse, and should pay a moderate stipend to a schoolmaster. The effect could not be immediately felt; but before one generation had passed away, it began to be evident that the common people of Scotland were superior in intelligence to the common people of any other country in Europe. To whatever land the Scotchman might wander, to whatever calling he might betake himself, in America, or in India, in trade, or in war, the advantage which he derived from his early training raised him above his competitors. If he was taken into a warehouse as a porter, he soon became foreman. If he enlisted in the army he soon became a serjeant. Scotland, meanwhile, in spite of the barrenness of her soil and the severity of her climate, made such progress in agriculture, in manufactures, in commerce, in letters, in science, in all that constitutes civilisation, as the Old World had never seen equalled, and as even the New World has scarcely seen surpassed. This wonderful change is to be attributed, not indeed solely, but principally to the National System of Education.—(*Macaulay's History of England*, Vol. VII., p. 415.)

ON ENGLISH AND LATIN STUDY.

To the Editor of the Australian Journal of Education.

SIR,—Permit me once more to reply to Mr. Sheldon's letter in No. 7. I have said to *reply*, but really Mr. Sheldon, has never attempted to *reply* to any one of my positions respecting English and Latin studies. He alleges, somewhat despairingly, that I have ridden full tilt at him for not seeing so clearly as I do the imperative necessity of studying Latin in preference to English, etc. No such a thing. I never uttered so unmitigated an absurdity. Such an expression I never used. So that Mr. Sheldon, at the outset, has stated what I must say is untrue: and thus has been guilty—unwittingly I have no doubt—of that which, on my part, he so feelingly deprecates. Mr. Sheldon appears to have quite a horror of "personal controversy," and so have I. But I must object to his insinuation that I said anything in my letter personally offensive to him. If I have I trust he will accept my apology. What I said arose from the subject in debate: what I shall say now shall have a like origin. Let Mr. Sheldon rest assured I do not, in the least, wish to offend him. If Mr. S. will turn to his letter, he will find he there clearly states that for numerous reasons which he adduces, English should be studied in preference to Latin. In his last letter he adroitly evades his former admission by saying that "He prefers English to Latin when the study of the one is pursued to the neglect of the other." Of course he does, and so does every schoolboy of common sense. Now, if he had said this before, I should not have found much fault with him, because this view of the matter is nearly coincident with my own; but the weight of his arguments went to show the uselessness of Latin study altogether; and, consequently, as the two statements stand, they are *de facto* a contradiction in terms.

Mr. S., after admitting that *English cannot be studied scientifically apart from Latin*, (which is the *most* I want him to admit) says that. "an inquiry into the origin, etc., may be pursued to an extent quite sufficient for most practical purposes without a knowledge of Latin." Sir, there needs no ghost to tell us *that*, any more than if one were to inform us that the simple Theory of Proportion "may be pursued to an extent quite sufficient for most practical purposes" without a knowledge of Euclid's fifth and sixth books. But will anyone in his senses seriously maintain that, in consequence, arithmetic should be studied, and these latter contemptuously thrust aside; For "the credit of the cloth" let us hope not. But, Sir, no sane man ever thinks of studying the one to the neglect of the other; but that, having mastered Arithmetic, he should proceed to the study of Euclid's books, provided he wish to become an expert in Mathematics. So in the study of language. After a lad has been well grounded in the study of his mother-tongue—and not till then—he should begin Latin in order to have a foundation for the study of his own, which I believe he could never get without it. And I maintain, again and again, that if a person possess a good knowledge of Latin, he possesses one of the most powerful instruments for the successful pursuit of his own.

In the Report of the Home Commission on Secondary Education, vol. I., it says, "There can be no doubt that a boy gains very much in the study of his own language by the study of another. A great deal of grammar, which it is very hard to explain to a learner, becomes clear, *without any explanation at all*, in the mere act of learning a foreign language. All masters appear to be agreed that *nothing teaches English grammar so easily or so well as Latin grammar*, and next to that they would place the teaching of some foreign grammar such as French. The preference is given to the Latin for many reasons. There is something no doubt in the beauty of the language itself. But the chief stress is laid on the fulness and precision of its accidence, in which *no modern language can rival it*." Further on it says, "The schoolmasters were almost unanimous in regarding Latin as their chief educational instrument. It might almost be said that in proportion to a master's success, was the emphasis with which he expressed this preference. Not a few declared that boys who learned Latin, beat boys who did not learn Latin, even in other subjects with which Latin had no direct connection. This was, in particular, the testimony of the head master of King Edward's School at Birmingham," (Dr. Badham ?) "who had lately introduced Latin into one of the elementary schools under his charge."

From these statements it will be seen that I have some foundation for the opinions I entertain. Again, Mr. G. P. Marsh, whom Mr. S. deems "one of the greatest modern authorities" touching the relative importance of English and Latin states: "In the English sentence, the proportion of words whose form fixes their grammatical category is too small to serve as a guide to their meaning. The logical relation must be determined, and the syntactical relation inferred from them. In Latin, on the contrary, you first, so to speak, spell out the syntax, and thence infer the sense of the period. In other words, to parse an English sentence, you must first understand it; to understand a Latin period you must first parse it. And in this predominance of the formal over the logical lies the exceeding value of the Latin as a grammatical discipline—not as a necessary means of comprehending or using our own tongue, but as a universal key to all language, a general type of comparison whereby to try all other modes of human speech. The English student who has mastered the Latin may be assured that he has thereby learned one-half of what he has to learn in acquiring any Continental language." These shrewd remarks I can verify from my own experience—small though it may be—compared with the researches of others. The great and eloquent Sydney Smith, whom Mr. S. has mentioned in an article on Professional Education states: "The two ancient languages are as mere inventions—as pieces of mechanism incomparably more beautiful than any of the modern languages of Europe; their mode of signifying time and case by terminations, instead of auxiliary verbs and particles, would of itself stamp their superiority. Add to this the copiousness of the Greek language, with the fancy, majesty, and harmony of its compounds; and there are quite sufficient reasons why the classics should be studied for the beauties of language. Compared to them, merely as vehicles of thought and passion, all modern languages are dull, ill contrived, and barbarous." Now, without exactly agreeing with all this, I have inserted this passage for the reason that it is the expression of one of the ablest and most eloquent expounders of the modern school of thought on a subject of the most profound importance. So much for the study of Latin. I trust Mr. S. will be satisfied with the passages I have quoted, if he be not with the manner in which I have endeavoured to maintain what I believe to be the best mode for the successful study of our own tongue. Now for a little bit of criticism. I am surprised that a man like Mr. S., who so sturdily maintains what none but a lunatic ever pretended to doubt respecting the value of our own tongue, should, nevertheless, be so fond of using so frequently Latin phrases, when English ones would answer the same purpose a great deal better. Why, Sir, he has as many kinds of *argumenta* in his letter as a cheap Jack has wares at a country fair. Elsewhere, Mr. S. says that "a Latin scholar may be a mere sciolist." I grant it, and I sincerely hope Mr. S. is not among the number. But let us take what he says, and see what it amounts to. It is a fact that thousands are "mere sciolists" without *Latin at all*; but what does this prove of the relative value of either Latin or English? Simply nothing; for by proving too much it proves nothing; and after all, we only see that it is *possible* for a Latin scholar to be a "sciolist" as well as a mere English scholar who, in ninety-nine cases out of a hundred, always is. What notion Mr. S. could have had in introducing so many preposterously irrelevant Latin quotations I am unable to divine. I remember an anecdote related of President Jackson, when he was seeking congressional honours out in the western states. He had just addressed his audience, when a friend advised him, in order to make a lasting impression on them of his profound attainments, "to tip 'em some Latin." The 'Gen'ral' did so; and instantly began with the stock phrases *sine qua non*, *statu quo*, and so on, and ended by being vociferously applauded as the ablest man among them; and it is needless to add he was of course elected by an overwhelming majority. Whether Mr. S. seeks to impart a like opinion of his profundity by the use of so much dog-Latin I am at a loss to say; yet, for his own sake, I trust he does not.

Horace says in his epistles: "Virtus est vitium fugere, et *sapientia prima stultitia caruisse.*" Where he makes the beginning of wisdom to consist in one's being free from childish or foolish practices. Let Mr. S. go on by all means with his study of English; but, at the same time, let him not seek to dissuade others from the study of one of the most perfect instruments of thought the world has ever seen, because that would be to employ his ability for a bad purpose, and would tend to discourage the higher studies altogether, which I am sure is far from Mr. Sheldon's thoughts.

Hoping to be excused for the length of this letter, and trusting Mr. Sheldon will take these remarks in a good spirit,

I am, Sir, yours respectfully, T. C. D.

To J. R.

Per favor of the Editor of the Australian Journal of Education.

Sir,—I shall be much pleased to join in forming a fund by the plan of Mutual Assurance as proposed by you; for the receipt of aid from such a fund would be entirely without the feeling that it is a charitable gift, and so could be accepted by the most sensitive without distress to their feelings.

I am, Sir,
Smithfield. Yours sincerely, C. L.

NOTICES TO CORRESPONDENTS.

Numerous communications are held over for want of space. We beg our correspondents to write only on one side of the paper, and to use foolscap when ever it can be obtained. Each sheet should bear the writer's initial. It would be a great convenience if the use of symbols and abbreviations were discontinued in solutions of geometrical questions.

A. Sutherland.—We have not been able to afford space for the articles to which you refer.

A. Lansdown.—*As* would be better than *so* in the passage you refer to. The great expense of printing analysis forms has hitherto prevented us from inserting the replies to questions in full. The matter will receive attention.

X. Y. Z.—The school prayers which you mention may probably be obtained at the Depository, Philip Street, Sydney. As regards their use in a Church of England School, it should be borne in mind, that the proper and legally constituted judge in such matters is the Head of the Denomination.

QUESTIONS FOR SOLUTION.

1. A train travelling at the rate of 30 miles per hour leaves A for B at 9·45 a.m. At 11·5 a.m. a train travelling at rate of 60 miles per hour leaves B for A. The distance from A to B is 450 miles: when and how far from B will the two trains meet?

G. T. B.

2. A boy earns 6d. per day; 2 women earn as much in 3 days as 5 boys earn in $2\frac{1}{2}$ days: 4 men earn as much in 7 days as 9 women earn in 11 days. In what time would a man earn £10 6s. 3d.?

G. T. B.

3. The plate of a looking-glass is 18 inches by 12, and it is to be framed with a frame of uniform width, whose area is to equal that of the glass: find the width of the frame.

R. C.

4. A person every year gains 50 per cent. on his capital; his expenses are £300 per annum. At the end of four years he finds that he is possessed of a capital four times as great as that he commenced with. What was his original capital?

5. A and B together could dig a trench in 32 days. After working together 12 days, B worked alone for 18 days more, and there were 8 yards remaining to be dug, and B had completed altogether $7\frac{1}{2}$ yards. Find the length of the trench.

6. Find the area of an equilateral triangle whose side is equal to "*a*."

7. Given a triangle ABC and a point D in AB. Construct another triangle ADE equal to ABC having the common angle A.

8. Lines drawn from the angles of a triangle to the middle of the opposite sides are 12, 15, and 18 respectively; construct the triangle and find its area within the limits of the Second Book of Euclid.

LEBEG.

9. Analyse and parse the following passage from the 2nd Book:—"A lark having built her nest in a field of corn, it grew ripe before her young ones were able to fly."

A.L.

10. Analyse the following, (see Morrell's Graduated Exercises, page 46):—"There is a time in every man's education, when he arrives at the conviction that envy is ignorance; that imitation is suicide; that he must take himself for better, for worse, as his portion; that though the wide universe is full of good, no kernel of nourishing corn can come to him but through his toil bestowed on that plot of ground which is given to him to till."

A.L.

11. "Paradise Lost," Bk. V., v. 609.

"Under his great vicegerent reign *abide*,
United, *as* one individual *soul*,
For ever happy: *him* who disobeys
Me disobeys; *breaks* union; and that *day*,
Cast out from God, and blessed vision,
Into utter darkness, deep ingulfed, his place *falls*
Ordained without redemption, without end."

1. Parse the words in italics. 2. Explain fully the meaning of *vicegerent, soul, utter*. 3. Supply the "stop" left out purposely.

B.

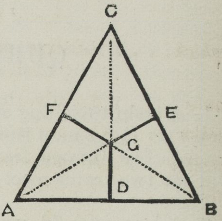
ANSWERS TO QUESTIONS IN No. 7.

Question 8.—The following is the solution by Q. :—

This theorem admits of three cases : 1st, the acute angled triangle ; 2nd, the right angled triangle ; 3rd, the obtuse angled triangle. To economise your space I will select the first of these three.

Let the sides of the triangle be bisected (I., 10) in the points D E and F. Draw (I., 11) DG and FG at right angles to AB AC, meeting in the point G. Join GA, GB, GC.

In the two triangles ADG BDG, AD is equal to DB, DG is common ; the angle ADG is equal to BDG. Therefore (I., 4) AG is equal to BG. Similarly by taking the triangles AFG CFG, CG may be shown to be equal to AG. Therefore the three straight lines AG, BG, CG are equal to one another.



Join EG.

Because in the two triangles CEG BEG, CE is equal to BE, and EG is common ; also the base CG is equal to the base BG. Therefore (I., 8) the angle CEG is equal to the angle BEG, and they are adjacent angles ; therefore (I., 13) each of these angles is a right angle.

Therefore the lines, &c.

Question 10.—We have received answers from A. A., A. L., J. O'R. E. Hewison, Keira, Seaview, A. L. (2), O. M. K., J. J. W., J. Sheldon, W. W. B. (very good), Marulan, Graph, Jacques, Seven Hills. Several of the replies are incorrect in some particulars. The following is by A. L. (2). Our own notes are upon the different words printed in italics.

I	First pers. pronoun, sing., mas. or fem., nom. to the verb "can guess."
can	Aux. verb, first pers., sing., present, indic., agreeing with its nom. "I."
	(Erroneously said to be in the Potential Mood by some correspondents.)
not	A negative adverb, modifying the verb "can guess."
guess	Trans. verb, infin. mood, governed by the verb "can."
can guess. .	Trans. verb, first pers., sing., present tense, potential mood, agreeing with the its nom. "I."
anything . .	Compound word = "any thing,"
any.	An adjective, *qualifying* the noun "thing."
	("Any" limits; it denotes no quality. Actually parsed by one correspondent as an "indefinite adjective pronoun"!)
thing	Common noun, sing., neuter, objective, governed by the trans. verb "see," understood.
else	An adjective, *qualifying* the noun "thing."
	(We consider "else" to be an adverb, equivalent to "besides" or "otherwise," and modifying "to be done," understood.)
Yes.	An adverb of affirmation, mod. the verb "have," understood.
	("Yes" can hardly be said to modify any verb. It seems to us to be a simple expletive.)
home	Common noun, sing., neuter, objec., governed by the preposition "to," understood. "Came *to his* home *on* that night."
night	Common noun, sing., neuter, objec., governed by the preposition "on," understood.

once . . . . An adverb, used as a common noun, sing., neuter, objec., governed by the preposition "at."

(Some have parsed "at once" "an adverbial phrase."—This is not parsing.)

there . . . . An expletive adverb, modifying the verb "is."

(Expletives are so called because they have no syntactical relation to the verb of a sentence. This word does not modify. It should be parsed "an expletive adverb.")

which. . . . Relative pronoun, sing., neuter (agreeing with its antecedent "exchange,") and objec., governed by the trans. verb "call."

only . . . . An adverb, modifying the verb "comes."

when . . . . An adverb, modifying the verb "is."

pretty . . . An adjective, used as an adverb, modifying the adjective "sure."

first . . . . An adjective, qualifying the noun "place," understood.

(Or, "first" an adverb, limiting the verb "promised.")

Question 11.—Solutions received from Graph, A. A., A. L., A. L. (2), E. Walker, Marulan, J. Sheldon, Seven Hills, E. Hewison, J. J. W., Jacques, D. A., and some other correspondents whom we cannot identify. Mr. Sheldon remarks:—

"The passage submitted for analysis is not "a sentence" at all; it is merely a series of exclamatory phrases forming an address to Night; but no assertion is made concerning the "sable goddess," unless the last line be made to convey one, by supplying the words *thou art!*"

We may add that mere ejaculations without an assertion do not constitute a sentence. Some correspondents propose to add the lines immediately following. viz.:—

"A starry crown thy raven brow adorns,
An azure zone thy waist."

Even then the number of words in the nominative case addressed renders the passage difficult. We have requested our contributor who writes the articles on analysis, to consider this difficulty before concluding his remarks on the subject.

Question 13.—Answered by J. Cameron, Graph, and J. Sheldon.

The following is the answer by J. Cameron:—

Name.—Originally called "New Holland" by a Dutch Navigator who discovered the west coast, afterwards called Australia.

Position.—To the south of Asia, between the parallels of 10 deg. 42 min. and 39 deg. 9 min. south latitude, and 113 deg. and 153 deg. 47 min. east longitude.

Boundaries.—North, Torres Strait and Arafura Sea; South, Bass Strait and Southern Ocean; East, Pacific Ocean; West, Indian Ocean.

Form of dimensions.—The shape square and compact, the shore broken by few large inlets. The greatest length from the extreme points, Cape York (north) to Wilson's Promontory (south) 2000 miles; average length 1200; greatest width from extreme points, Cape Byron (east) to Steep Point (west) 2400 miles; superficial extent, 3 million square miles.

Coast line. Projecting points.—Cape York, the most northern point, Cape Byron the most eastern, Wilson's Promontory the most southern, Steep Point the most western, Cape Howe, Green Cape, Cape Hawke, Smoky Cape, Cape Danger, Cape Moreton, Sandy Cape, all on the east coast, on the south—Cape Otway, Cape Bridgwater, and Cape Leuwin, on the north-west the North-West Cape, Cape Levegue.

Indentations.—In the north - Gulf of Carpentaria (the largest in Australia) Van Dieman Gulf; in the west—Queen's Channel, King's Sound, Admiralty

Bay, Shark Bay, Geographer's Bay; in the south—Australian Bight, King George's Sound, Spencer's Gulf, St. Vincent Gulf, Encounter Bay, Port Philip; in the east—Twofold Bay, Bateman Bay, Jervis Bay, Botany Bay, Port Jackson, Broken Bay, Port Stephen, Trial Bay, Shoal Bay, Moreton Bay, Hervey Bay, Keppel Bay, Broad Sound.

[It would be a useful exercise to criticise these notes, and if done in a proper spirit, we are persuaded Mr. Cameron would not object.—Eds.]

Question 14.—Answered by Graph, O. M. K., J. J. W., J. Sheldon, A. A., B. and G. Hargraves. Thus answered by G.:—

"Melanesia—from the Greek *melas*, black, and *nesos*, island—is the south-west division of Oceania, and is so called because its inhabitants are black. It nearly corresponds to Australasia.

Micronesia—from the Greek *micros*, small, and *nesos*—is the north-eastern division of Oceania, and consists of the numerous *small islands* lying north of the equator and east of the Malayan Archipelago."

ANSWERS TO QUESTIONS IN No. 8.

Question 1.—Correctly by A. A., Arith., Bandon Grove, E. Walker, E. Adrain, Hargraves, J. Cameron, Jacques, John Brown, Keira, P, Downey, R. C., Seven Hills, Seaview, W. W. B.

The following is the solution by R. C.:—

$80{\cdot}727 \times 4\frac{2}{3} = 376{\cdot}726$.

376·726 grains of pure silver in a dollar.

$\therefore 412{\cdot}5 - 376{\cdot}726 = 35{\cdot}774$.

35·774 grains alloy in the dollar.

Question 2.—By A. A., Arith., D. A., E. Hewison, E. Walker, J. Cameron, John Brown, J. O'R., Keira, P. Downey, Seven Hills, Seaview.

The following is the solution by A. A.:—

$$\frac{\sqrt{5}+\sqrt{3}}{\sqrt{5}-\sqrt{3}} \times \frac{\sqrt{5}+\sqrt{3}}{\sqrt{5}+\sqrt{3}} = \frac{5+2\sqrt{15}+3}{5-3} = \frac{8+2\sqrt{15}}{2} =$$

$$4+\sqrt{15} = 8{\cdot}872+$$

Question 3.—By A. A., D. A., E. Hewison, E. Walker, Hargraves, Jacques, J. O'R., Keira, P. Downey, E. Bousfield, R. C., W. W. B.

The following is the solution by E. Walker:—

1 lb. Avoirdupoise = 7000 grains Troy

1 dr. Avoirdupoise $= \dfrac{7000}{16 \times 16}$ grains Troy

22 ozs. Avoirdupoise $= \dfrac{7000 \times 22}{16}$ grains Troy

Number of drams Avoirdupoise $= \dfrac{\dfrac{7000 \times 22}{16}}{\dfrac{7000}{16 \times 16} - 27} = 28{,}000$

The number of drams, &c., is 28,000.

Question 4.—By A. A., Arith., Bandon Grove, D. A., E. Hewison, E. Adrain, Hargraves, J. Taylor, Jacques, John Brown, J. Buckley, Keira, P. Downey, R. Bousfield, R. C., Seven Hills, W. W. B.

The following is the solution by "Seven Hills."
27 horses for 25 days = 1 horse for 675 days, and
15 „ 35 „ = 1 „ 525 „ therefore
675 days − 525 days = 150 days = the time 1 horse is kept for £26 5s.
Therefore 1 horse is kept 1 day for 3s. 6d.
And 1 „ „ 19 „ £3 6s. 6d.
Consequently as £3 6s. 6d. will keep 1 horse 19 days
„ £123 0s. 6d. „ 37 „ 19 „

Question 5.—By A. A., E. Hewison, E. Walker, Jacques, John Brown, J. O'R., Keira.

The following is the solution by E. Hewison:—
Let $4y$ miles = the distance to be walked
x = rate per hour backwards.
Then by the question—

$$\frac{y}{x} + \frac{3y}{4x} = \frac{y}{x - \frac{1}{5}} + \frac{3y}{4x + 2} \quad \left.\vphantom{\frac{y}{x - \frac{1}{5}}}\right\} \text{Divide by } y \text{ and } \times \text{ by } 4x.$$

$$7 = \frac{4x}{x - \frac{1}{5}} + \frac{6x}{2x + 1} \quad \left.\vphantom{\frac{4x}{x - \frac{1}{5}}}\right\} \text{Clear of fractions and collect.}$$

$\frac{7}{5}x = \frac{7}{5}$ ∴ $x = \frac{7}{5} \div \frac{7}{5} = 1$
∴ the rate per hour backwards is 1 mile.

Question 6.—By A. A., Arith., E. Hewison, E. Walker, J. Buckley, Keira, Seven Hills.

The following is the solution by Q:—
To prove that ·249 = $\frac{1}{4}$ and also the general rule for mixed circulators,
The fraction = ·24999 +
I. 1000 times the fraction = 249·999 +
II. 100 „ „ = 24·999 +
Subtracting II. from I., then 900 times the fraction = 249 − 24 = 225.

$$\therefore \text{the fraction} = \frac{249 - 24}{900} = \frac{225}{900} = \frac{1}{4}$$

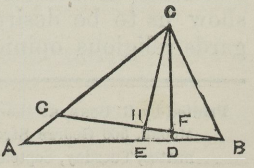
Question 7.—By A.A., E. Hewison, J. Buckley, Keira, P. Downey.

The following is the solution by E. Hewison, slightly altered:—
Let ABD, FDE be two triangles having the same vertical angle D. Let C be the point through which their bases pass, and let the base AB be bisected in C, while EF is not bisected. Through B draw BG parallel to AD.

DEMONSTRATION.—The trapezium BCFD is common to the triangles ADB, FDE, therefore it is only necessary to prove that the triangle AFC is less than the triangle CBE. Now by hypothesis AC = BC, and BG is parallel to AD by construction. ∴ alt. angle FAC = alt. angle CBG, Euclid 29, I.; also angle FCA = angle BCG, Euclid 15, I. ∴ FC = CG and AF = BG; also the angle AFC = angle CGB, Euclid 26, I. ∴ the triangle AFC = triangle CBG, Euclid 4, I. But the triangle CBG is less than the triangle CBE, ∴ the triangle AFC is less than the triangle CBE; to each of these unequals add the trapezium BDCF, then the triangle ADB is less than the triangle FDE.

Question 8.—Correct solutions from A.A., E. Hewison, John Brown, J. Buckley, Keira, P. Downey:—

The following is the solution by P. Downey:—



Let ABC be a triangle, having the vertical angle ACB bisected by the line CE; and let CD be a line perpendicular to the base: then the difference of the angles CAB, ABC, shall be double of the angle ECD. Let AC be greater than BC. Make CG equal to CB (Euclid 3, I.), and join GB.

Then because CB is equal to CG, the angle CGB is equal to the angle CBG (Euclid 5, I.) ; but the angle CGB is equal to the sum of the angles GAB, ABG (Euclid 32, I.) ; therefore the angle CBG is equal to the sum of the angles GAB and ABG. To each of these equals add the angle ABG, and the whole angle CBA is equal to the angle GAB and twice the angle ABG, therefore twice the angle ABG is the difference of the angles at the base ; and the angle itself is half the difference of the angles at the base.

Again, because the side CG is equal to the side CB, and the line CH common, and the angle GCH equal to the angle BCH (by hypothesis), the two triangles GCH and BCH are equal in all respects (Euclid 4, I.), and the angle CHG is equal to the angle CHB ; but when a straight line CH standing on another straight line BG makes the adjacent angles equal to one another, they are right angles (11 Def. I.) ; therefore the angle CHB is a right angle. And because the angle BDF is given a right angle, we have two triangles CHF and BDF, in which the angle BDF is equal to the angle CHF, and the angle DFB equal to the angle HFC (Euclid 15, I.) the remaining angle DBF is equal to the remaining angle HCF (Euclid 32, I. Cor. 3) but DBF as has been proved is half the difference of the angles at the base, therefore the whole difference of the angles at the base is double of the angle HCF.

[It has been represented to us that certain expressions contained in an article which we extracted from a periodical published in the mother country, were calculated to give offence to our Roman Catholic subscribers. If such be the fact, we frankly express our regret that such an inadvertence should have occurred, and trust our readers will not so far misunderstand our intentions as to imagine that we would willingly offend the members of any denomination. Our Journal is not theological, but professional, and our sole aim is to make it a means of usefulness to Teachers, *as teachers*.

At the same time, we take the opportunity of remarking that we cannot be held responsible for any opinion or expression that may appear in the Journal, *unless it be set forth as the opinion of the Editors*. No other Journal in existence is burdened with such responsibility, and it would be obviously unfair to make the Conductors of this paper answerable in a special degree. Other journals publish correspondence and extracts which express views diametrically opposed to those entertained by the Editors. No one thinks in such cases of attributing blame to the Editors on account of such views. We, also, may deem it proper that articles should be published with which we agree, or disagree, to a greater or less extent, but we believe that no man of a candid mind would therefore conclude that we endorsed every expression or approved of every detail. We must be judged by the general character of the Journal, and that, we are free to affirm, will show us to be desirous of observing perfect neutrality as regards religious opinions.—EDS.]

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THE

Australian Journal of Education.

Vol. I. THURSDAY, OCTOBER 1, 1868. No. 10.

EDUCATION IN ENGLAND.

It is sometimes useful to ascertain our real position in matters educational, by viewing it in relation to the advances made in other countries. Such a comparison will often afford us encouragement when we are on the right track, or hold out a warning beacon when we pursue a wrong course or lag behind in the race. To pause while we review our progress in the past, is not to lose time, but to gather courage and energy for a future struggle.

The means of instituting a comparison of this kind, as regards what is termed Secondary Education in England, has been furnished by the report of a Royal Commission appointed to inquire into the condition of schools above the class called Elementary. From that report we cull a few specimens of the proficiency attained in schools of a superior grade.

As may be seen from the following example—written, we presume, from dictation,—Orthography is not a strong point, for it is the production of a boy, aged thirteen, attending an endowed grammar school :—

"He was burred in the church at Cong and a remarkeable circumstance occurried at his furinal. Has the body was being carried to the grave a man who stood on an enemense in a loued voice forbaide the inturnats of the body in a spot in which they discease had unjustsly sease. That very spot he cried his this sight of my fathers house and I sommon the departed soul the divine trefurnal to answer for the crime. * * * * William is discribed by the writters of the time has possing the sighs and strengt of a gaint."

We hope no boy or girl belonging to a Third Class in any school in New South Wales would do *worse* than this in spelling.

The arithmetical notions of some of the boys examined are equally original. The following question was given to a class of forty-six :—

"Subtract one thousand and one from one hundred millions forty thousands seven hundred and six."

Correct answers were given by 5, the remaining 39 being utterly worthless. For example, one genius thus answers the question :—

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1000000004000000007006
                 10001
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  100000039999970005
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Another of less expansive intellect is content with this :—

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100040706
000101000
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100939706
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But our young friends entertain very generous ideas on geographical matters. In an Upper Class girls' school, the young ladies declare that the "United States is remarkable for its ruins, and that "its population is 3000000—200,000,2000,000, 000." "The capital is Mexicon." "It is very subject to earthquakes, and all the houses are built low in consequence." According to these writers the government of the United States is peculiar. "It is governed by a Queen, a Council and 2 representatives." Others aver that "each state manages its own affairs, has a Consul-general appointed by the people, and a Governor by the Queen," while some think "each State has a King, chosen by the people, and a House of Commons, and Lords." Scotland is also an extraordinary country according to these geographers. "Its population is 2300000 square miles." "One quarter of the inhabitants of the globe live in Scotland"—and, we presume, are in consequence of their vast increase, packed like herrings. "The religion of Scotland," we are told, "is Protestant, the people are Catholics." "Oats are the favourite food of the people," and, what is comfortable to think, the climate "is in a very thriving condition." Ireland must be a nice sort of country, for we are told that "it is very flat, and has many deserts and plains;" "the occupation of the people is to dig potatoes;" "its ports are Aberdeen and Dundee, and its exports fish."

If the young ladies shine in geography, the young gentlemen are equally brilliant in History. "Charles I.," they tell us, "passed a Bill of Attainder to pardon rebels; he was a weak man, and was beheaded by Bishop Juxon, because he would not let Cromwell be king." "The Habeas Corpus was a bill passed by Edward I. to protect a man's body." "The National Debt is what we owe other nations, and was intended to be paid up by the South Sea Bubble, but it didn't answer." Not to be outdone, some of the girls make Sir Thomas More to be a poet of the reign of Victoria, while Sir Walter Scott is said to have flourished in the reign of Elizabeth.

The qualifications of the teachers who produce such results may be inferred from the subjoined notes, addressed to the Commissioner who conducted the inquiry :—

"Sir, ——'s Private School, ——.—The Boys' School.—The course of instruction embraces all the usual branches of a first-class education; terms writing and cyphering 6d. a week. The above, with writing in books, tables and grammar, and geography and book-keeping, 9d. a week; the principles of the Church of E., no boarders, the No. of pupils 36, very poor school. Dear sir, my health being so bad it *his* a great hurt to me, I have teach 38 years.—I remain, ——,

"WILLIAM ——."

"Sir,—As my school is only a day-school of so little importance and quite an infant school, therefore I did not think it worth while to return the scheduels, as they are only commencing their education.—I remain, &c."

"Mrs ——, which was Mrs —— beg leave to say her school was discontinued in the year 62, and the room is now turned into a cottage."

It is not intended to convey the impression that the papers quoted represent the state of things in any but the worst schools. The only comfort we can draw from the facts is that our very bad schools are not worse than the worst of English schools. But at the same time, it becomes us to labour with such assiduity and intelligence, that no children who have been under instruction for a reasonable time shall be found in so gross a state of ignorance.

ANALYSIS OF SENTENCES.

(*Resumed from No.* 9.)

THE COMPOUND SENTENCE.

115. In dealing with Compound Sentences, comparatively little remains to be said; for the material, already supplied, has only to be arranged in new forms. Thus—

I. Under the Simple Sentence, we have provided for the detailed analysis of one clause; and this form is so far unchangeable throughout the course.

II. In the Combined Sentence, we have provided for the relationship borne by direct clauses to each other.

III. In the Complex Sentence, we have provided for the attitude in which indirect clauses stand to each other, and to one direct clause.

There is, therefore, no need to repeat what has already been advanced.

116. But it yet remains to shew sentences, in which we find a plurality of principal clauses, as well as a plurality of subordinate ones, in which co-ordinacy is found in direct, as well as in indirect statements, within the same sentence. This new feature, we need scarcely say, the Compound Sentence alone supplies.

117. By the original definition, No. 1, the smallest Compound Sentence must contain two direct statements, and one indirect,

at the very least. From this, as a basis, the expansion may proceed, according to the mind or necessities of the composer; thus—

To the two principal statements,

I. Several more direct clauses may be added, while the one indirect clause remains.

II. Several indirect clauses may be added, while the two original direct ones remain.

III. Both may be increased by addition, or by incorporation.

Thus—*Two direct clauses*, and *one indirect*:—

"Oh! let the Soul its slumbers break, |
Let thought be quickened and awake—awake to see, |
How soon this life is past and gone." |

Three direct clauses:—

"A tall spreading forest there I found,
And a woodman old in its shadows drear; |
The strokes of his axe broke the silence around, |
And I asked, | 'how long has the forest been here.'"

Four direct clauses:—

"Upon the middle of the night,
Waking, she heard the night fowl crow; |
The cock sung out an hour ere light; |
From the dark fens the oxens' low
Came to her, without hope of change; |
In sleep she seemed to walk forlorn, |
Till cold winds broke the gray-eyed morn |
About the lonely moated grange."

Five direct clauses:—

"With blackest moss, the flower-pots
Were thickly crusted one and all; |
The rusted nails fell from the knots |
That held the pear to the garden wall; |
The broken sheds looked sad and strange; |
Unlifted was the clinking latch; |
Weeded and worn was the ancient thatch
Upon the lonely moated grange." |

Six direct clauses:—

"Rise, my Soul on wings of fire! |
Rise, the rapturous choir among! |
Hark! | 'tis Nature strikes the lyre;
She leads the general song; |
Warm let the lyric transport flow;
Warm as the ray, | that bids it glow |
And animates the vernal grove,
With health, with harmony and love."

And so on, the direct clauses may be still further increased in number where necessary.

Two indirect clauses :—

"Little avails it now to know
Of ages past so long ago, |
Nor how they rolled ; |
Our theme shall be of yesterday, |
Which to oblivion rolls away
Like days of old."

Three indirect clauses :—

"I passed by a city, | where was a man
Plucking fruit, | that in a fair garden hung ; |
I asked, | 'how long has the city been here.' "

Four indirect clauses :—

"And ever when the moon was low, |
And the shrill winds were up and away, |
In the white curtain to and fro
She saw the gusty shadow sway ; |
But when the moon was very low, |
And wild winds bound within their cell, |
The shadow of the poplar fell
Upon her bed, across her brow." |

Five indirect clauses :—

"And he, far voyaging from home and friends,
Too curious with a mortal eye to peep
Into the secrets of the Pole, forbid
By Nature, | whom fierce winter seized, | and froze
To death, | and wrapped in winding sheet of ice, |
And sung the requiem of his shivering spirit
With the loud organ of his mighty wings, |
And on his memory threw the snow of ages, |
Felt the long absent warmth of life return ; |
And shook the frozen mountain from his bed."

118. We may see from the above examples of Compound Sentences that the *direct* clauses may at one time predominate, and the *indirect* clauses at another. When the first takes place, the analysis is much more easy than when the latter occurs, as will be shewn hereafter.

119. But the *number* of clauses constituting the Compound Sentence is not the only uncertain or unrestricted feature ; the *mode* in which the clauses are distributed is also deserving of remark.

120. The direct clauses may open and close the sentence. Example :—

> "The mountain looks on Marathon, |
> And Marathon looks on the sea, |
> And musing there an hour alone,
> I dreamed | that Greece might yet be free; |
> For, standing on the Persian's grave,
> I could not deem myself a slave."

121. At other times the direct clauses neither commence nor terminate, but will be found in the body of the sentence.

122. Again, the subordinate clause, or clauses, will be found occupying the whole of the opening portion of the sentence, often producing a very striking effect. We have room for one example only.

> "When they viewed with complacency the extent of their own mental powers, | when they exercised the various faculties of memory, of imagination, and of judgment in the most profound speculations, or in the most important labours, | and when they reflected on the desire of immortality and of fame, | which transported them into future ages, far beyond the bounds of death and the grave, | they were unwilling to confound themselves with the creatures of the field, or to suppose | that a being, | for whose dignity they entertained the most sincere admiration, | could be limited to a spot of earth, or to a few years of duration."

123. Furthermore, the principal clause may commence, break off, and allow a whole series of subordinate clauses to fall in, as qualifications of various kinds. It will then resume and finish. A fair instance of this will be noticed in the ninth poetic quotation given. A still better occurs in the opening paragraph of the Lusiad, part of which was quoted in our last issue. Here the passage opens with the completion of the predicate; nine subordinate clauses then intervene; and the passage closes with the remainder of the interrupted clause, and one more direct clause.

124. Another example will be found in the well-known passage from the "Giaour":—

> "He, who hath bent him o'er the dead, |
> Ere the first day of Death has fled, |
> The first dark day of nothingness, |
> The last of danger and distress: |
> Before Decay's effacing fingers
> Have swept the lines, | where beauty lingers, |
> And marked the mild Angelic air, |
> The rapture of repose, | that's there, |
> The fixed yet tender traits | that streak
> The languor of the placid cheek; |
> And, but for that sad shrouded eye,

That fires not, | wins not, | weeps not now, |
And but for that chill, changeless brow,
Where cold Obstruction's apathy
Appals the gazing mourner's heart, | *
As if to him it could impart
The doom | he dreads, | yet dwells upon ; |
Yes, but for these, and these alone,
Some moments, aye, one treacherous hour,
He still might doubt the Tyrant's power, |
So fair, so calm, so softly sealed,
The first, last look, by Death revealed ; |
Such is the aspect of this shore, |
'Tis Greece, | but living Greece no more;
So coldly sweet, so deadly fair, |
We start, | for soul is wanting there."

Here, the subject, "He," in the first direct clause, is separated from the Predicate by nineteen lines, and eighteen subordinate clauses, more or less perfectly formed ; and it is because of the long suspension repeated in the twentieth line.

125. Another remarkable, though much less known passage, occurs in the literature of the eighteenth century, and which, but for its appropriateness as an example, we should not, on account of its exalted theme, quote in a mere work upon Grammar.

"O thou, | that sittest upon a throne,
With harp of high, majestic tone,
   To praise the King of Kings ;
And voice of Heaven-ascending swell, |
Which, | while its deeper notes excel, |
   Clear as a clarion rings,

To bless each valley, grove, and coast,
And charm the cherubs to their post
   Of gratitude, in throngs,
To keep the days on Zion's Mount,
And send the year to its account
   With dances and with songs,

Oh, servant of God's holiest charge !
The minister of praise at large, |
   Which thou mayest now receive, |
From thy blest mansion, hail ! and hear ! |
From loftiest eminence appear
   To this the wreath, | I weave."

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* This passage is taken from the best authorised version, by Murray ; but Mr. Morrell gives the two lines within brackets thus—

"Whose touch thrills with mortality,
And curdles to the gazer's heart."

Much might be said as to which of the two is the more appropriate. We would prefer the latter ; but the first is undoubtedly the original rendering, as the author makes special reference to the word "obstruction," as quoted from Shakespeare, in a manuscript footnote. We have invited attention to the matter, solely because the difference in point of analysis is material.

126. Here, it will be observed, that the original subject, "thou" —the first word nearly in the passage—is widely separated from the nearest predicate "hear," in the closing lines of the invocation; but in order to sustain the sense under so long a suspension the term servant is employed as another mode of address.—

O thou—hail! hear!
O servant—appear.

This passage differs from the last—this being in the second person, and addressed *to* another, that being in the third person, and spoken *of* another. The effects, however, under such a prolonged suspension of the diction, are to a great extent the same, namely, to render the meaning more difficult of discovery, and the analysis more intricate. This will be found specially the case with the last example, particularly the first stanza.

127. We have not yet done with all the varieties. Our object is merely to shew, that sentences of the above class, though very different in form, will be found, when analysed, to have a common character as Compound Sentences.

MENTAL ARITHMETIC.

[*Continued from page* 242.]

To Find the Difference of the Squares of any Two Numbers.

Multiply together the sum and difference of those numbers.

Example. $431^2 - 231^2 = 662 \times 200 = 132400$.

This will be found useful in solving many questions relating to right angled triangles.

To Find the Difference of the Squares of any Two Numbers whose Sum is a series of Nines.

Example.—The difference of the squares of 18476 and 81523.

Rule.—Double the larger number, not reckoning the last carrying figure, and then subtract each digit from nine, thus:—

81523 × 2 = 63046. This result subtracted from a series of nines gives 36953. The answer will be 6,304,636,953.

Given the Price of a Lb. to Find the Price of a Cwt. or a Ton.

Rule.—For every ¾d. in the price of a lb., count 7s. per cwt., and £7 per ton.

Example.—Meat is 2¼d. per lb., *i.e.*, 3 times ¾d.; wherefore it will be 3 × 7 = 21s. per cwt., and £21 per ton.

Sugar is 5¼d. per lb. 5¼ = 7 times ¾d.; therefore it is 7 times 7s. = 49s. per cwt., and £49 per ton.

If, on dividing the farthings by 3, we have 1 over, we add 28 pence or 2s. 4d. to the price of a cwt. and £2 6s. 8d. to the price of a ton. If there is a ½d. over, add 56 pence or 4s. 8d. to the price of the cwt., and £4 13s. 4d. to the price of the ton. The numbers 28 and 56 are easily remembered, being respectively a ¼ cwt. and ½ cwt. in lbs.

Examples.—3¼d. per lb., how much per cwt?
13 ÷ 3 = 4 and 1 over. 7s. × 4 + 2s. 4d. = £1 10s. 4d.
5½d. per lb., how much per ton?
22 ÷ 3 = 7 and 1 over. £7 × 7 + £2 6s. 8d. = £51 6s. 8d.
6½d. per lb., how much per cwt?
26 ÷ 3 = 8 and 2 over. 7s. × 8 + 4s. 8d. = £3 0s. 8d.
4¼d. per lb., how much per ton?
17 ÷ 3 = 5 and 2 over. £7 × 5 + £4 13s. 4d. = £39 13s. 4d.

The inverse of this rule will be useful to young men in business. Thus, by a late telegram from Melbourne, sugar was quoted at £32 5s. per ton. A person wishes to know how much per lb. this would be.

Divide by 7, which gives 4⅓ very nearly. Therefore the sugar is ¾d. × 4⅓ = 3¼d. nearly per lb.

TO FIND THE PRICE OF A GIVEN NUMBER OF ARTICLES AT A CERTAIN NUMBER OF FLORINS EACH.

Rule.—Multiply by the number of florins, call the units figure of the result florin and the rest pounds.

Example.—(1.) 257 at 6s. or three florins.
257 × 3 = 771 = £77 : 1 florin = £77 : 2s.
(2.) 8475 at 18s. = 8475 × 9 = 76275 = £7627 10s.

GEOLOGY.

[*Continued from page* 285.]

IGNEOUS OR UNSTRATIFIED ROCKS.

21. On the supposition that the earth was originally an igneous body, and that the oldest rocks were formed by the cooling of the burning substance, we should expect to find the unstratified rocks at a very great depth in the crust, far from the reach of human investigation. But it must be remembered that the fire would still be pent up within the hardened surface, and liable to break out in volcanic eruptions, as it does at various points up to the present time.

22. Keeping in view this liability of the earth's crust to fracture from the bursting forth of the internal fire, we shall not be surprised to find, what geology reveals to be true, that the oldest rocks are found mixed up with those of the most recent formation. The fact is, that the unstratified rocks occur in no regular succession; but are found amidst those of the stratified formations, without order or arrangement; in one place heaving them out of their original horizontal position, and breaking up through them in volcanic masses; in another extending over them in the form of solidified lava.

23. From these circumstances, they are, in general, better known by their mineral composition, than by their relative position among the other rocks ; but it is convenient to consider them in the three classes before mentioned :—granitic, trappean, and volcanic. The granitic rocks form the basis of all the rest, and occur along with the primary and transition strata. The trappean are of a darker colour, and less crystalline structure than the granitic, and occur along with the rocks of the secondary and tertiary period ; and the volcanic are still less crystalline and compact, and of comparatively recent formation.

24. These rocks may be conveniently arranged according to the above ideas of them, as follows :—

Igneous Rocks,	In association with
Volcanic,	Superficial accumulation—*soil, alluvium, diluvium.*
Trappean,	Tertiary strata—*crag, fresh water marls, London and plastic clay.* Secondary—*chalk, oolite, lias, new red sandstone, coal measures, mountain limestone, old red sandstone.*
Granitic,	Transition—*silurian & grauwacke rocks, concretionary limestones.* Primary—*clay slate, crystalline limestone, mica schist, quartz, and gneiss rocks.*

25. The granitic rocks, so named from their distinctly granular and crystalline texture, comprise *granite*, *syenite*, *protogine*, *primitive greenstone*, *serpentine*, *porphyritic*, and other varieties of granite. The trappean, so called on account of the stair-like appearance of the hills formed by these rocks, include *basalt*, *greenstone*, *clinkstone*, *claystone*, *trachyte*, *porphyry*, *and amygdaloid.* The volcanic, as the name implies, are those products which have been discharged by recent volcanic action, such as *lava*, *obsidian*, *scoriæ*, *pumice*, *and tufa.*

26. In thus commencing an account of the earth's crust by a description of the igneous rocks, we are following what appears the natural order—the order of time. The unstratified rocks being the lowest, were first formed by crystallization, and each succeeding formation must have been made up out of the disintegrated material of those which preceded it. The composition of granitic rocks varies considerably. Granite proper, as has been already stated, is composed of crystals of felspar, quartz, and mica, and is generally of a grayish colour ; but it is sometimes tinged reddish by the oxide of iron which is contained in the felspar.

27. When the dark glistening mineral hornblende takes the place of the mica, the rock is known by the name of *syenite*, from Syene in Egypt, where it is found in great abundance ; and when talc takes the place of the mica, the admixture of felspar, quartz, and talc, formes the *Protogine* of French geologists. *Hypersthenic* granite is that which is composed of quartz, hypersthene, and scattered crystals of mica. When the rock has a speckled and mottled appearance from the presence of

variously-coloured minerals, such as chlorite, it is called *serpentine*, from its fancied resemblance to a serpent's skin.

28. *Porphyritic granite* is also of common occurrence; it is a name given to that kind which, in addition to the crystals that compose the general mass, has larger crystals of felspar indiscriminately mixed up with it. Occasionally the minerals in granite are so arranged as to have the appearance of the lines in Arabic writing; and this variety is known by the name of *graphic granite.* Besides these distinctions, there are others in use among geologists, made from the colour and composition of granitic rocks. Felspar, quartz, mica, hornblende, and hypersthene, are the most abundant constituents; but the aspect of the mass is sometimes modified by the partial admixture of other minerals, especially actynolite, chlorite, talc, schorl, and steatite.

29. When two minerals enter into the composition of a granite rock, it is called *binary* granite; when three, *ternary*; and when four, *quaternary.* The structure of granite of whatever kind is massive and irregular; its texture is of various degrees of fineness, from a hard and close-grained rock to a coarse and loose aggregation of primary crystals. The position of granite is much varied, and its relation to other rocks exceedingly irregular. In some places it rises up in mountain masses; in others it spreads out as an undulating floor or basis, and sometimes is found in the form of veins running through other rocks in a fantastic manner.

30. The geographical distribution of granitic rocks is very general; they form many of the most extensive mountain ranges in the world. The Grampians in Scotland, the Cumberland and Cornwall hills in England, the Wicklow mountains in Ireland, the Alps in Switzerland, the Pyrenees in Spain, the Dovrefelds in Norway, the Abyssinian and other African ranges, and the Andes in South America, are all more or less composed of rocks of a granitic character.

31. In New South Wales, the Liverpool range, and Warrumbungle mountains are of basalt and granite. North of the Liverpool range, the Dividing chain consists chiefly of granite. From Bolivia to Tenterfield, and onwards towards Maryland, the range is of granite with intrusive basalt. The red and gray granites prevail in the chain north of the Severn river. Most of the peaks in New England have a granitic base, and greenstone or basalt top. The Hanging Rock, near Tamworth, is of granite, greenstone, and porphyry. The Maneroo district is trappean. The Illawarra limestone is surrounded with basalt and granite. The Araluen valley is between walls of hornblendic granite. The top of Mount Kosciusko is of sienitic granite. The Blue Mountains are of slate, with frequent fields of granite and basaltic trap. Granite commences at Hartley, and extends beyond Bathurst on the western road.

Explanation of Terms.

32. *Actynolite*—a greenish-gray mineral, so called from the pointed and thorny appearance of its crystals.

Alluvium ; Latin—*luere*—to wash, and *ad*—together. Land washed down by water, as the deltas of rivers, &c.

Amygdaloid; Greek—*amygdalon*—an almond, and *eidos*—a form; meaning almond-shaped, and applied to certain trap rocks in which other minerals are occasionally imbedded like almonds in a cake.

Basalt—a rock consisting of augite and felspar, with grains of magnetic or titanic iron, and also bottle-green particles of olivine frequently disseminated. It is usually of a greenish-blue colour, or of some dull brown shade, or black.

Crystalline ; Latin—*crystallinus*—consisting of crystals, *i.e.*, regular solids terminated by a certain number of plane and smooth surfaces.

Crag—a tertiary deposit of gravel mixed with shells.

Coal Measures—the rocks immediately overlying the mountain limestone.

Concretionary ; Latin—*concretus*, from concresco to grow together ; *i.e.*, growing together by congelation, condensation, coagulation, or induration.

Clinkstone ; clink, and stone ; so called from its sonorousness.

Chlorite—a greenish-black mineral.

Disintegrate—Latin ; *dis*—asunder, and *integer*—whole ; to break asunder any solid or whole substance. The disintegration of rocks is caused by atmospheric action, &c.

Diluvium—Latin ; *luere*—to wash, and *dis*—asunder. Applied to all masses of land resulting from powerful aqueous agency.

Grauwacke—a German miner's term, signifying—gray rock ; adopted in geology to designate the grayish slates and siliceous conglomerates of the transition period.

Gneiss—consists of felspar, quartz and mica, sometimes having hornblende and garnets in it.

Greenstone—a rock of the trap formation, consisting of hornblende and felspar in the state of grains, or small crystals ; and so called from a tinge of green in the colour.

Graphic, from Greek—*graphō*—to write.

Hypersthene, from Greek—*uper*, Latin—*super*—over, above, and *sthenos*—strength ; so called from its difficult frangibility.

Hornblende—a black or dark-green mineral ; so called from its horny fracture.

Lias—a corruption of layers.

Lava—an Italian term for the melted matter discharged by volcanoes during an eruption.

Mica—the glistening scaly and transparent portions of granite.

Mica schist—consists of mica and quartz, with hornblende and garnets contained in it.

Mountain Limestone—the lowest rocks of the secondary formation.

Marl—an earth or clay containing more or less of carbonate of lime, and effervescing consequently with an acid.

New Red Sandstone—rocks about the middle of the secondary formation.

Oolite; Greek—*ōōn*—an egg, and *lithos*—a stone; a kind of limestone consisting of round grains as small as the roe of a fish.

Old Red Sandstone—the rocks lying uppermost of the transition period.

Obsidian—a kind of glass produced by volcanoes. It is usually of a black colour, and opaque, except in thin splinters. One kind of it has a bluish or grayish colour, and a pearly lustre, and is called *pearlstone.*

Oxide—a compound of oxygen and a base destitute of acid and salifying properties. Rust is the oxide of iron.

Protogine—a kind of talcose granite.

Porphyry; Greek—*porphyra*—purple, originally applied to a reddish unstratified rock found in Egypt; now used to denote a reddish igneous rock, containing imbedded crystals of felspar.

Pumice; Latin—*pumex*, supposed to be from the root of *spuma*—foam; it is a substance frequently ejected from volcanoes, of various colours, gray, white, reddish-brown, or black; hard, rough, and porous; specifically lighter than water, and resembling the slag produced in an iron furnace. It is of three kinds—glassy, common, and porphyritic.

Quartz—the hard white crystals of granite, and the white grains of sandstone.

Silurian—from Silures, the name of a people who anciently inhabited a part of England and Wales. It is a term applied to the fossiliferous strata below the old red sandstone.

Scoriæ—Latin; from the Greek—*skōria, skōr*—rejected matter; the cellular, slaggy lavas of a volcano.

Schorl occurs in black prismatic crystals; it is brittle and lustrous, and becomes electric by heat and friction.

Steatite—a mineral of a greasy or soapy nature.

Schist, from the Greek—*schisma*—a splitting or division, applied to rocks easily split up into slate-like plates.

Tufa; Italian—*tufo*—porous ground; French—*tuf*—soft gravel-stone, or sandstone; (1) a soft or porous stone, formed by deposition from water; (2) a volcanic sand-rock, rather friable.

Trachyte; Greek—*traxus*—rough; a nearly compact felspathic volcanic rock, breaking with a rough surface, and often containing crystals of glassy felspar, with sometimes hornblende and mica.

Talc—a transparent mineral resembling mica, but softer and not elastic.

GE.

(To be continued.)

THOMAS TAWSE: SCHOOLMASTER.

II.—MR. TAWSE "MEETS THE LOCAL BOARD."

ON rising in the morning, Mrs. Tawse found that she had underrated both the malice and the ingenuity of Australian mosquitos which had left evident traces of their sanguinary tastes on her own face and that of her infant. At first, the real cause of baby's disfigurement did not occur to her, and she began to suspect that he was suffering from measles, when a peep at her little looking glass showed that she was similarly marked, and led her to suspect the mosquitos.

"Look at his poor face," she remarked to her husband; "he is quite a figure. What detestable things those mosquitos are."

"Your own beauty is not improved by contact with them, Bessie," Mr. Tawse quietly rejoined; though he was aware that the mosquito bites would produce greater inconvenience than the temporary injury to personal appearance. "We must be more careful to-night, or Charley will be bitten again, and the bites, I am told, become very sore."

Mrs. Tawse having finished baby's toilet and put the house into order, began to prepare breakfast. Mr. Tawse meanwhile chopped some wood, lit the fire, and set the kettle on to boil. These preparations were nearly completed when a little girl stepped into the sitting room. She appeared to be about seven years of age, but might have been younger. Her features bespoke little intelligence, for they were begrimed with mud, and her blue eyes were almost hidden by the locks of tangled hair—flaxen in colour, but darkened by dirt—that hung in wild disorder over her brows. Barefooted, and attired in a tattered frock from which the colour had been washed, the child presented all the appearances which Mrs. Tawse had noticed with a shudder in the London street Arabs. Advancing to one of the boxes, she placed on it a bottle containing about two-thirds of a pint of milk, at the same time ejaculating, with stolid, inexpressive countenance, the single monosyllable, "Milk!"

"Oh!" exclaimed Mrs. Tawse with sudden vivacity, "that's capital: some kind soul has sent us some milk. Poor Charley will have a good breakfast. How very kind to think of us in this way, and so early too!" And the good creature's grateful feelings began to call up the moisture to her eyes. She even reproached herself for having entertained bitter thoughts about the people, and resolved to believe nothing to their disadvantage in future, when her refletions were rudely interrupted.

"Mother says it's sixpence," said the child, in the same unmoved, half sullen, manner.

Mrs. Tawse on hearing this intimation, became suddenly incapable of speech, but her husband exclaimed in a tone indicative of some amount of discomposure, "Oh, my child, there must be some mistake; your mother would never think of charging sixpence for half-a-pint of milk. Who is your mother?"

"Mrs. Hards," responded the child, doggedly.

"Tell your mother, I will call and settle with her after breakfast," he said, "and then we can talk about the charge."

"Mother said I wasn't to come home without the money," persisted the little girl, in the same expressionless manner.

"Pay her, Thomas;" exclaimed Mrs. Tawse, excitedly, "pay her and let her go. It's positively shameful."

"Patience, Bessie," said Mr. Tawse, soothingly, "there must be some mistake:" and he handed a sixpence to the girl. But she did not move; and after a long pause spoke in her usual tone—"Mother said I was to bring the bottle back."

Mr. Tawse thereupon emptied the bottle with all speed, and gave it to the girl, who immediately darted out at the door and disappeared.

This incident gave the young couple considerable uneasiness; first, because it seemed to indicate a bad disposition on the part of the people, and secondly because their slender income would not suffice to purchase luxuries at such a price. For a long time they wondered how it happened that the milk was sent at all, and were inclined to attribute the attention to a greedy desire to be first in a very profitable market, though in fact the transaction was brought about by the good nature of Dick who sincerely desired to render every kindness in his power to Mr. Tawse and his wife. When strolling through the bush in search of his bullocks at an early hour that morning, Dick came upon a wretched slab hut, roofed with bark, and exhibiting, even upon the exterior, all the marks of neglect and idleness. In a small yard, was a slatternly woman milking a cow. The thought struck him that Mrs. Tawse would like some milk, and not being accustomed to wait for an introduction before commencing a conversation with a stranger, he at once accosted the woman.

"Morning, missis: seen my bullocks anywhere?"

"I see some going down towards the river about half-an-hour ago. There was four on 'em," she replied.

"Was one a strawberry?" he inquired.

"Yes," responded the woman, "and he had a big cross on the near shoulder."

"That's my brand," said Dick cheerfully.

"What brought you up to this part of the river?" asked the woman.

"Well, you see," Dick replied, "I brought up the new schoolmaster and his wife and their bits of things."

"New schoolmaster!" she exclaimed. "And what sort is he? The last was bad enough any ways."

"Fus rate; fus rate: he's no offsider, my word;" said Dick, whose figures of speech had usually a professional turn; "and his wife's as good or better. I'll be bound people hereabouts will be well off. But I say, missis, couldn't you send 'em a drop of milk; they've got a little child, and she ain't very strong?"

The woman objected; she had no milk to spare; she had no one to send with it; she had nothing to send it in. Dick, however, perseveringly overcame all her objections, and induced her to promise to send a bottle of milk,—with what result we have already seen.

Mr. Tawse suspected that he would probably be compelled to pay equally extravagant rates for butter, eggs, meat, and every other article of consumption. He was therefore anxious to learn what amount of income he would be likely to receive from the school fees; and after breakfast he set out to visit the members of the School Board, upon whom he had been directed to call.

He first reached the residence of Mr. Sharp, the Chairman. Entering the store, he introduced himself to Mr. Sharp, an intelligent, but unsympathetic sort of man, who received his visitor with a degree of coldness that almost amounted to incivility.

"I was instructed to present my letter to you and to ask for directions," said Mr. Tawse.

"I don't know that I have any directions to give:" replied Mr. Sharp. "What directions do you want? I suppose you will open school next week."

"I believe," Tawse remarked, "that the Local Board have to fix the rate of school fees; and I think that should be done before I commence work, to prevent misunderstanding hereafter."

"There need be no hurry," was the rejoinder.

"Certainly not;" Mr. Tawse answered, "there is no hurry in doing the thing at the proper time. Besides, it is a matter of some moment to me, as I really do not see how we can live upon our salary alone."

"Well, we must have a meeting of the Board:" Mr. Sharp stated.

"Will you summon one for to-day?" inquired Mr. Tawse.

"No," replied Mr. Sharp, "but if you like to tell the others, I will come down at three o'clock."

This matter being settled so far, Mr. Tawse inquired if he could get a little flour. "Yes," said the storekeeper slowly, but with more interest in his manner than he had hitherto evinced: "I do not give credit. The last Teacher went away nearly six pounds in my debt."

"I do not wish for credit," Mr. Tawse quietly observed; "I can pay for what I purchase."

This remark appeared to mollify Mr. Sharp considerably. The flour was weighed and paid for—at a rate so exorbitant as almost to throw Mr. Tawse off his guard. But recovering himself he inquired if the flour could be sent to the school. "No," was the brief response; "I send nothing." Mr. Tawse thereupon took his leave, promising to call for the flour on his return. He then set out for the residence of Mr. Plowden, another member of the Board.

This gentleman was busy breaking in a young bullock, and could give little heed to Mr. Tawse's inquiries. And in fact, the vivacious movements of the young bullock rendered it necessary that all in the immediate neighbourhood should look out for their own safety. A reluctant half-promise was at length extorted from Mr. Plowden that he would attend the proposed meeting, and he then, without further ceremony, returned to his occupation. Mr. Tawse retired amid the slightly-concealed jests of some idlers who had assembled to witness the torture of the bullock.

Even Mr. Tawse's stout heart began to sink at these repeated rebuffs, but he still manfully held on his way to Mr. Hards', the third member of the Board. Mr. Hards was a blacksmith, and, with his assistant, was busily employed when Mr. Tawse arrived at his workshop. Both stopped while the schoolmaster told his errand.

"There oughtn't to be no fees," said Mr. Hards loudly and vehemently. "Children ought to be teached free. I can't come: I've got my work to attend to, and can't afford to waste *my* time running about."

This was intended to rebuke Mr. Tawse who felt indignant at the palpable injustice of the blacksmith's inuendo. He was about to reply warmly when he perceived a number of children approaching, and among them the little girl who had brought the bottle of milk. When she found that she was recognised, the child slunk out of sight; but the others surrounded Mr. Tawse, and surveyed him with an apathetic *bovine* expression of countenenance, which made him sad to see. At first he felt a strong impulse to begin teaching at once, simply to benefit the unfortunate children, and rescue them from the life of mental vacancy in which they seemed to exist; but, remembering that an important principle was involved, he reverted to his original determination to have all preliminaries arranged in the first instance. He therefore resumed the discussion with Mr. Hards; and, by means of firmness and dexterity combined, prevailed upon that obdurate individual to promise attendance at the projected meeting.

Mr. Tawse then wended his way homeward, calling at Mr. Sharp's for the flour, which he was obliged to carry himself. Tired with his walk, and dejected in spirits by the result of his interviews with the members of the Local Board, he was not able to conceal his trouble from his wife, and was wholly unfit to give her the consolation he found she needed. Mrs. Tawse on her part was nervously excited. She had never before been left for so long a time alone in the bush, and after her husband had gone, the sense of loneliness and insecurity became so intolerable that she locked herself and child in the bedroom, first fastening the front door. She even welcomed the appearance of a small shining lizard which came up through a crack in the floor, though at any other time the sight would have made her tremble. Even the relief afforded by her husband's return failed to compose her mind, and she went through her preparations for dinner in a preoccupied mood.

The meal passed over almost in silence, and soon after Mr. Tawse went into the schoolroom, to prepare it for the meeting of the Local Board.

Three o'clock came, but no members of the Board: a quarter past—half past—and then Mr. Sharp rode up, fastened his horse to a sapling, and entered the school.

"Nobody come, Mr. Tawse," was his observation, "I hoped the business would have been settled."

"Are the other members not likely to come?" Mr. Tawse inquired anxiously.

"Perhaps not," was all the comfort derived from Mr. Sharp.

After the lapse of another quarter of an hour Messrs. Hards and Plowden made their appearance, also on horseback. They alighted, and walked into the schoolroom without ceremony.

"Well, Mr. Sharp," said the first named, "we'd better get to business. I suppose you are in the chair. What had we better say about these school-fees. We must fix them as low as possible, people hereabouts is very poor."

"Yes" said Mr. Plowden, "people are poor. What rate do you say Mr. Sharp?"

"Perhaps we had better ask Mr. Tawse what he expects in the shape of fees; I hope his notions are not too high:" remarked Mr. Sharp.

"That won't do here," exclaimed Mr. Brownjohn in his usual boisterous tone that rang through the building and reached the ears of Mrs. Tawse in the dwelling apartment. "We must fix the fees at a reasonable rate."

"That is all I require or expect;" returned Mr. Tawse, "I do not wish for anything extravagant, but simply for a reasonable rate. I do not think it fair to ask me the question; the Board, in my humble opinion, should fix the scale of fees on the information they possess as to the circumstances of the people."

Now Mr. Tawse had noticed during his morning walk, that the indications of considerable wealth were very general. Rich soil, good crops, fine cattle, and numerous horses, showed that the farmers were thriving; hence his reference to the circumstances of the people.

"What do you say to threepence a week all round?" inquired Mr. Plowden.

"That's too high" Mr. Hards declared: "where I come from at home they only pay a penny a week and that's plenty."

"But" said Mr. Tawse, "everything is much cheaper at home. How much, for instance, does milk cost in your part of the country?"

"Oh only about twopence a quart," was the response.

"But I paid to-day at the rate of fifteen pence a quart; and if your proposal is agreed to, I shall have to teach a child fifteen weeks for a quart of milk. Other things are equally dear. At the rate you propose, I should obtain about three and fourpence a week as fees, if all attended regularly and paid regularly."

"But then what splended salary you get from the government," objected Mr. Hards.

"I receive eighty-four pounds a year, that is about thirty-two shillings a week. Out of this I have to pay for food and clothing for myself and family, for medical attendance and medicine; Teachers must sometimes buy books, and I require to get some furniture. I appeal to you, Mr. Sharp, whether my "splendid salary" will enable me to do all that is necessary."

Thus appealed to, and possibly fearing that Mr. Tawse might have but small means for dealing at his store, Mr. Sharp could not but give his opinion that both scales were too low. Accordingly, after a long discussion in which every shade of meanness and niggardliness was exhibited, the scale was fixed at sixpence per week for each child, and Mr. Tawse was enabled to revel in the thought that he might be the happy possessor, under the most favourable circumstances, of an income of about fifty pounds a year from school-fees.

The second night passed by the young couple at Murrorong did not seem more auspicious than the first, and they retired to rest with troubled thoughts and anxious forebodings as to their future.

(To be continued.)

A SYSTEM OF TEACHING ARITHMETIC.

[*Continued from page* 283.]

[*We have considered it desirable, in order to draw attention to various methods of teaching and to evoke discussion, to afford contributors opportunities of stating their views on such points; but it should be understood that the Conductors of this Journal do not necessarily identify themselves with the opinions so expressed.*]

Compound Division is the opposite of Compound Multiplication. The latter is the mode by which the amount or price of any quantity is ascertained or calculated when the price of *one article is given;* the former is the method adopted in order to find the value of one article when the value or price of *the whole is given.* Or it may be that a sum or quantity is to be divided into shares or parts. The method by which this is done, when the thing to be divided is not a *multiple* of the number of parts to be made, is called Compound Division. Does the pupil remember what was said of multiples and component parts? If he does, he will have the less to remember now; and the fewer new things he has to be told, the more readily he apprehends what he is told. Well, lest he should forget, we shall tell him again. 16 is a multiple of 4, and 4 is one of the component parts of 16. We also call 4 a measure of 16. In the same way we call 9 one of the component parts of 27, and 3 the other component part or measure of 27, while 27 is a multiple of either of these numbers. Suppose now, we had to divide £27 among 9 persons. This would be a very simple operation indeed, and because it is so, it is called Simple Division. But suppose the sum to be divided among the 9 persons was not a multiple of 9, that is, when divided, would leave some over, as when such a sum as £32 was to be divided among 9 persons, or into 9 parts. Then we find from our knowledge of Simple Division that there would be £3 to each person; but these persons might say truly enough that there would be 3 for each, if the sum to be divided among them was only £27. "We want our share of the £5 that are over." Now we tell them, these pounds are in notes or sovereigns, and if we give one to each as far as they go, there will be 4 persons left to go without a share of what money is over. This they are not content to do, and we say, well then, you must go and get these 5 sovereigns changed. The change is obtained. There are 100 shillings produced. Is that number right? Yes, because, if we multiply 5 by 20, the number of shillings in a pound, we find it makes 100. Now, as these boys have been attentive to their tables, and remember what they learned of Short Division, they know that each person ought to have 11 shillings as his share of the 100. But there is a shilling over still, and each has an equal right to it; they want it divided. Then they must go and get it changed for pence. Now we have 12 pence, and each gets a penny. But we have now 3 pence over, and they demand that this small sum be likewise divided. They get the 3 penny pieces changed for farthings. There are 12 farthings produced, because, 4 farthings are equal to one penny, and 3 times 4 are 12. This number divided among the 9 will give 1 farthing to each, and there will be 3 farthings over. If they can get these farthings changed for smaller coin, they too will be divided; but as there is no smaller coin to be had, we say that 3 farthings remain to be divided among 9, or into 9 parts, and it is to be thus expressed—$\frac{3}{9}$, or 3 to be divided by 9. Let each see what is his share of the £32. He finds it to be £3 1s. 1¼d. and 3 over, or the $\frac{3}{9}$ of a farthing, which is his share of it, if it could be divided. This is Compound Division, and is simple enough. But suppose the sum to be divided is £32 14s. 6d., and not £32 only. Well we divide the £32 as before, and we have as before £5 over to get changed for shillings, which are found to be 100; to this 100 shillings, we simply add the 14 shillings —which make the whole number of shillings 114. These divided by 9, or among the 9 boys, give 12 shillings for each, and there are 6 shilling pieces and 6 pence, which also must be divided. We get the 6 shillings changed, for which we get 72 pence, and this sum with the sixpence, makes 78 pence to be divided. This number admits of giving 8 pence to each, and leaves 6 pence still to be divided. This sum we get changed for farthings = 24. These 24 are also divided, and each gets 2 or ½d. There remain in our hands after this last division 6 farthings, and when they can procure change for these of smaller coin we shall again divide them. Meanwhile we express what the claim of each is—$\frac{6}{9}$ or 6 to be divided by 9. Now to simplify this expression we take a measure of these two numbers. 3 will be found a measure of both. There are two threes in 6, and 3 threes in 9. Hence for $\frac{6}{9}$ we write $\frac{2}{3}$. Now this sum of £32 14s. 6d. divided into 9 shares or parts will give £3 12s. 8⅔d. each. The £32 14s. 6d., the sum or thing to be divided is called the *dividend*; the 9, or the number of parts or shares to be made of it, is called the *divisor*; and the value of each share or quantity contained in each of the parts is called the *quotient*.

Now, as the nature of Division, when the divisor consists of one digit, must be understood by this time, there can be little difficulty felt in comprehending the method by which Compound Division is done. When the divisor contains several digits, the pupils are reminded of the method adopted in Simple *Long Division*. Well now the pounds are to be divided just as if there were nothing but pounds to be divided as in Long Division; what may be found over are also pounds, which must be changed for shillings, and the shillings which formed a part of the sum to be divided must be added to them. This is to be again divided as in Long Division, when the quotient will be shillings, because the last dividend was the number of shillings to be divided, and the remainder, if any, are also shillings, which are to be changed to pence, to which, whatever odd pence may be in the original dividend are to be added and divided in the same way as the pounds and shillings. The quotent of this last division will be pence and the remainder pence, because the last dividend was pence. These are to be brought into farthings, and the same process of division as before, to be adopted. Thus: An estate containing 4975 acres is sold for £14,308 6s. 1¾d., and we want to know how much that is per acre, as we are told we can have a few acres of it at the cost price. Now we have simply to divide the £14,308 by the number of acres, 4975, as in simple Long Division, when the quotent will be found to be 2. The remainder which is also so many pounds, is to be multiplied by 20 or changed to shillings, to which the 6 shillings are to be added. This number of shillings being again divided, will give the quotient 17. The remainder in this division is also shillings, which are to be changed into pence by multiplying them by 12, and the 1 added; then on dividing this number again, the quotent will be 6 or sixpence; as there is still a remainder also pence, it must be changed to farthings, by multiplying it by 4; the ¾ which also form part of the purchase, are to be added to the other farthings, which must be divided by the same divisor—4975, when it will go twice or two times, and leave no remainder. The value of the land per acre then is £2 17s. 6½d.

In the same way all other things to which weights or measures are applied may be divided. Suppose a quantity of goods, say 15 tons 13 cwt. 3 qrs. 11 lbs. is to be sent up the country on 6 drays, and the carriers desire to know how much to put on each dray, so that the loads may be equal. We proceed in the division of this quantity precisely as we did with the money. We divide the 15 tons by 6, as if they were £15, and the 3 tons over we bring into cwts., as we brought the pounds that were over in our last division to shillings, by multiplying them by 20, because as there are 20 shillings in a £, so there are 20 cwts. in a ton. Then there are 60 cwts. in 3 tons. But there are 13 cwts. to be divided as well as these 60 cwts. Well, we add both these numbers together, when they are found to be 73. Now, these divided by 6 (the number of drays) give 12 cwts. to each, and 1 cwt. over. Now, this cwt. has to be divided just as we had to divide the shillings that were over; we brought the shillings into pence by multiplying them by 12, because there are 12 pence in a shilling. So this 1 cwt. is to be brought into quarters by multiplying it by 4, because there are 4 qrs. in a cwt.; but there are 3 qrs. in the quantity of goods also to be divided; these when added together make 7 qrs., and this 7 divded into 6 parts give 1 qr. to each part, and leaves 1 qr. over, which has also to be conveyed on the drays; to divide it we calculate how many lbs. there are in a qr., because there are 28 lbs, in a qr., just as there are 4 farthings in a penny; but to these 28 we have to add the 21 lbs., because the quantity to be divided is 28 lbs. and 11 lbs. = 39. These when divided by 6 give 9 lbs. to each, but there are 3 lbs. over which we must divide. We have now to ascertain how many ounces in 3 lbs. This we do by multiplying the 3 lbs. by 16, the number of ozs. in a lb., which we find comes to 48 ; this number divided into 6 parts gives 8 ozs. to each. The quantity for each dray to take is, therefore, 2 tons 11 cwt. 1 qr. 6 lb. 8 oz. In this way the pupils soon catch this idea : that as money is reckoned by pounds, shillings, pence, and farthings, so Avoirdupoise Weight is reckoned by tons, hundredweights, quarters, pounds, and ounces; and that the same plan is adopted with all things that are weighed or measured. The money system being made the model or basis for all the other kinds, the only difference being that each kind is divided or multiplied *by as many of the less as make one of the greater.* Let one of the other weights be taken as an illustration, say Troy Weight ; or take Long Measure or Dry Measure, and the principle is at once seen. This plan presupposes that the tables of weights and measures are thoroughly committed to memory. In this way, by a proper use of the blackboard, the addition, subtraction, or multiplication of weights and measures may be, in a very short time, made perfectly clear to the understanding of any boy of ordinary capacity.

(To be continued.)

TEACHERS' MUTUAL INSURANCE ASSOCIATION.

As it is intended to submit to a public meeting of Teachers, some time during the present month, a plan, by which a system of Mutual Insurance might be established among the Teachers under the Council of Education, irrespective of situation, age, sex, or health, we give the following outline of its principal features ; so that our readers may be prepared to give it a careful consideration. It is assumed—

1st. That in an establishment where the parties are liable to removal, as persons discharging active duties under the control of employers must necessarily be, a system of mutual insurance which meets the cases as they arise, is far preferable to any system which relies on large accumulated funds, entailing heavy expense in the management, and causing anxiety from risk in their investment or custody, but which also carries with it a probability that a large proportion of the contributors will leave the service, and with it the amounts they had contributed to be shared among their successors.

2nd. That a system which has just funds enough to meet cases as they occur, is as honorable and legitimate as any other system of insurance at present in operation, and far more secure.

3rd. That in any establishment which demands the personal active service of those employed, the chances of death among them, as a rule, are equal, especially among Teachers under the Council of Education, where the average age is under 40.

4th. That of the Teachers under the Council, 500 at least, would be disposed to become members of such a system of Mutual Insurance as is proposed, and to promise to fulfil its conditions for one year from a certain date, when such contract might be renewed or not at the option of the parties themselves.

5th. That as Teachers are dispersed over a very great extent of country, prevailing epidemics, which are generally local, will not much affect the usual rate of mortality.

Hence it is proposed,—

1st. That a contribution of Five Shillings from each intending member be remitted, with the name sent for enrolment, together with a promise to forward a similar contribution every time it might be required, within a year from the date mentioned (say January 1st, 1869.)

2nd. That the sum of £125 in this way be contributed in the first instance (minus the trifling per centage which the management would entail), to be paid to the legal representative of the first member of the Association that became deceased in that year; and that such sum be treated as an asset of the personal estate of the deceased member, in the same way as the money he or she might have in the bank.

3rd. That as other deaths might be reasonably expected to occur during the year, a call be made for a second contribution, as soon as it was ascertained that the first contribution would be demanded to be in readiness to meet the next claim, whenever it might occur; and so on, a call to precede each demand occasioned by a death among its members.

4th. That in the event of the Association or confederacy attaining to the number of 625 members, then the next call thereafter be only four shillings per member, and should the members attain to 835, the next call thereafter be only three shillings each, and should the whole of the 1000 Teachers in the Council's service become members, then the next call thereafter be for only two shillings and sixpence each; so that the proceeds of each call would just make up the stipulated sum of £125 to be paid to the legal representatives of each of those members that died during the year. Thus as the risk that the calls would become more frequent was increased, so the amount contributed at each call would become proportionately diminished.

5th. That the contributions of those members in excess of 500 and below 625, and between 625 and 835, &c., be retained to meet the deficiency that might arise through the non-fulfilment of the contract during the year by any of its members who might be found so unprincipled as not to respond to the calls as made on them.

6th. That the sum of £125, which, of course, must always be kept in hand at the close of each year, be held to the credit of such of the old members as renew the contract, and be reckoned as their contribution to the first call made after remittance received with the order from the Teacher for continued membership.

The sum of £125 is fixed on as the amount which, when funeral expenses, &c., were paid, would leave a net sum of £[illegible]00 for widows or dependents, as the case might be, to comm other business with for support.

We subjoin a letter addressed by the Secretary of one of the Sydney Benefit Societies to the originator of the scheme. From this letter it appears that the mortality was considerably under one per cent., and that of the eleven deaths that did occur, five were 40 or over, while six were under 40, and of these, two were under 30.

Sydney, 24th September, 1868.

Dear Sir,—In compliance with your request I now furnish you with the number of deaths that have occurred among the members of the Sydney W. U. Benefit Society, during the fourteen years that I have been Secretary.

The number of members on the Roll in 1854 was seventy six, the present number is one hundred and twenty two.

During the abovementioned period eleven members have died, and nine member's wives, their respective ages at the time of death were as follows, viz.—Members, 59, 55, 46, 42, 40, 36, 36, 33, 32, 26, 23; Wives, 54, 40, 39. 35, 30, 29, 28, 26, 22.

Wishing your proposed scheme of Insurance every success,

I am, Dear Sir,
Yours truly,
William Brown.

The following additional proposal has been handed to us for publication as one that will be submitted to the meeting about to be called. This, as well as the question, whether Superannuated Teachers (should there be any) ought to be eligible for continued membership, is worthy of consideration:—

"That Teachers, who are members of this Society, but who may be obliged to leave the service of the Council of Education solely through ill-health, shall nevertheless be allowed to continue their membership for three years after quitting the Council's service, should their conduct be good during this time."

RUDIMENTS OF LATIN.

Exercises in Lessons VI., VII., and VIII.

19. Tenera mater. Nigrum animal. Flos ruber. Canis reginæ. Filius patris. Lex regni. Flos pulcher dominæ. Labor fortis fabri. Filia teneræ matris. Filia venusta crudelis regis. Lex justa bonæ reginæ. Mare angustum.

21. The father is wise. The king is rich. The queen is sad. It is the lady's dog. The water of the sea is clear. The oak has a flower. The queen's brother has a dog. A woman is meek. They irritate the faithful dog. They praise the man's labour. They carry a huge oak. The happy father loves his sad daughter. The faithful dog pleases the master's father. They blame the base armour-bearer. The base armour-bearer blames the king's father-in-law. The cunning wolf rouses the faithful little dog. The meek ass is useful. The sword is short; the arrow is long. Our king is brave. Our brave king attacks the huge wolf. The slave of our queen cheats her rich son-in-law. The sad girl does not love her father's red wine. The huge wolf attacks the little meek lamb. The brave boy points out the clear light. Your law is useful. Our little brother points out the morning star.

24. Bonum vinum amo. Rex bonum vinum amat. Duo lupi asinum vorant. Fortis rex tres fratres liberat. Felices filiæ tristes matres amant. Duo pueri animalia ingentia monstrant. Omnes homines amamus. Taurum ingentem irritatis. Canes fideles fatigant. Utiles homines numero. Dona matris portas. Timidæ columbæ lucem amant. Divita dona speramus. Lupi crudeles taurum infelicem cruciant. Veloces canes magnum nigrum lupum oppugnant. Patrem domini monstrant. Regis boni fratres laudas. Labor maxima animalia fatigat. Dulces flores oculum delectat. Hominem tres lupi vorant.

LESSON IX.

ACCIDENCE.

Latin is said to be an *inflected* language, that is, it expresses different shades of meaning, not by adding other words, but by changing the *forms* of words. These changes, called *inflections*, usually occur at the end of the word in Latin, though in a few words it will be found at the beginning. The changes of termination are much more numerous in Latin than in English. This is particularly the case with regard to nouns, adjectives, and verbs. For example, in such a word as *Dominus*, a master or lord, the following changes in the meaning are expressed by means of inflection :—

A master	Domin-us
Of a master, or master's	Domin-i
To, or for, a master	Domin-o
A master (as the object)	Domin-em
O master	Domin-e
By, with, or from a master	Domin-o.

And in the plural :—

Masters (as subject)	Domin-i
Of masters, or masters'	Domin-orum
To, or for, masters	Domin-is
Masters (as object)	Domin-os
O masters	Domin-i
By, with, or from masters	Domin-is.

These inflections further serve to indicate the altered relations of the word to the rest of the sentence, that is, the different *cases* of the word. As may be seen from the foregoing examples, by means of the case endings, the Latin expresses the original meaning of the word, and also the meaning of the preposition which it is necessary to supply in English. The same principle holds good with regard to the inflections of verbs. For example, differences of tense, mood, and voice are thus expressed :—

I carry	Port-o	*I might carry*	Port-ārem.
I was carrying	Port-ābam	*I may have carried*	Port-āverim
I carried, or have carried	Port-āvi	*I might have carried*	Port-āvissem
I had carried	Port-āveram	*I am carried*	Port-or
I will carry	Port-ābo	*I was carried*	Port-ābar
I will have carried	Port-āvero	*I will be carried*	Port-ābor
I may carry	Port-ēm	*I may be carried*	Port-er
		I might be carried	Port-ārer.

In all these cases, the root of the word "Port" remains unchanged, but the termination is varied to express the meanings which, in English, require the aid of auxiliary verbs.

Little progress can be made in the knowledge of Latin without a complete familiarity with the various inflections, some of which we shall proceed to describe. The inflections of nouns, adjectives, and pronouns are called *declensions*, and we are said to *decline* a noun when we mention all its inflections.

The inflections of verbs are called *conjugations*.

Exercises.

25. Write out the inflections of the following verbs, after the model given above, viz.:—Am-o, ar-o, cre-o, cruci-o, damn-o, laud-o, monstr-o, oppugn-o, rog-o, sper-o.

LESSON X.

In Latin there are five declensions. In each declension there are five cases, called the nominative, the dative, the accusative, the vocative, and the ablative. The nominative and accusative have already been remarked upon. The dative is rendered in English by the preposition *to* or *for* with the noun; the vocative answers to the English nominative addressed; and the ablative to the English objective governed by certain prepositions. The following general rules should be committed to memory:—

1. The vocative and nominative, singular and plural, are almost always alike.
2. The dative and ablative plural are invariably alike.
3. Neuter nouns have the nominative, accusative, and vocative singular always alike; the same cases in the plural are also alike and always end in *a*.

The following is a specimen of the first declension. It should be remembered that most nouns and all adjectives ending in *a* in the nominative singular are of the feminine gender, whatever may be their meaning. All such words belong to the first declension.

	Singular.		*Plural.*
Nom.	Domin-a, *a lady.*	*Nom.*	Domin-æ, *ladies.*
Gen.	Domin-æ, *lady's.*	*Gen.*	Domin-arum, *of ladies, or ladies'.*
Dat.	Domin-æ, *to a lady.*	*Dat.*	Domin-is, *to ladies.*
Acc.	Domin-am, *lady.*	*Acc.*	Domin-as, *ladies.*
Voc.	Domin-a, *O lady.*	*Voc.*	Domin-æ, *O ladies.*
Abl.	Domin-â,[*] *by, with, &c., a lady.*	*Abl.*	Domin-is, *by, with, &c., ladies.*

Exercises.

26. Decline Via, *a way or road;* Rosa, *a rose;* Puella, *a girl;* Femina, *a woman;* Via longa, *a long road;* Alba rosa, *a white rose;* Puella pulchra, *a beautiful girl;* Femina egregia, *an excellent woman.*

27. Give the Latin for—

Two excellent women. Four red roses. Of the queens. By the little girl. For the good lady. With white feathers. The beloved daughter (*Acc*). To the clear waters. For the little girls. Of a broad table. The good lady (*Acc*). Of the first black feather. Of the little white doves. To the little narrow islands. The good queens' daughters. For the good queens' daughters. The black she wolves. The doves' white wings. For the girls' red cheeks. With the girls' wax.

LESSON XI.

Accidence.

The words belonging to the second declension include those terminating in *us*, *er*, and *um*, as Domin-us, Pu-er, Don-um. The words ending in *us* and *er* are of the masculine gender; those ending in *um* are neuter. The termination of the genitive singular will enable the learner to ascertain to what declension a given word belongs. This termination for words of the first declension is *æ;* for the second, *i*.

In Lesson IX., a noun of the second declension is declined in full. Another example is now added.

Regnum (neuter), *a kingdom.*

	Singular.		*Plural.*
Nom.	Regn-um, *a kingdom.*	*Nom.*	Regn-a, *kingdoms.*
Gen.	Regn-i, *of a kingdom.*	*Gen.*	Regn-orum, *of kingdoms.*
Dat.	Regn-o, *to, or for, a kingdom.*	*Dat.*	Regn-is, *to, or for, kingdoms.*
Acc.	Regn-um, *a kingdom.*	*Acc.*	Regn-a, *kingdoms.*
Voc.	Regn-um, *O, kingdom.*	*Voc.*	Regn-a, *O, kingdoms.*
Abl.	Regn-o, *by, &c., a kingdom.*	*Abl.*	Regn-is, *by, &c., kingdoms.*

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[*] The circumflex over this *a* is not necessary, and is not always written.

EXERCISES.

28. Decline five words in each of the vocabularies in lessons III., IV., and V.

LESSON XII.

ACCIDENCE.

The verb es-se, *to be*, is thus conjugated in the present indicative, active voice.

	Singular..	*Plural.*
1*st Person*	Sum, *I am.*	Sumus, *We are.*
2*nd* ,,	Es, *Thou art.*	Estis, *You are.*
3*rd* ,,	Est, *He is.*	Sunt, *They are.*

This verb, as in English, may have a nominative after as well as before it, for example, Victoria est regina, *Victoria is a queen.*

EXERCISES.

29. Give the English of—

Rex insulæ es. Lupi estis. Heri multorum servorum sumus. Amatus sum. Homines vulnerati sunt laudati. Es timidus agnus. Gener regis sum. Magnus liber est. Muri alti sunt. Bonæ reginæ infelices sunt. Patres puerorum sunt crudeles. Maria lata sunt. Fratris flores sunt pulchri. Homines et fratres sunt. Feminæ et matres sunt.

(To be continued.)

THE ATMOSPHERE.

NITROGEN.

NAME.—The word "nitrogen" signifies—"generator of nitre," and was given to it because it is an essential constituent of that substance. It is sometimes called Azote, (a-not, zoe-life), meaning—without life. This name was given to it, because, though not poisonous like carbonic acid, it is incapable of supporting life.

DISTRIBUTION.—Nitrogen is extensively diffused in nature. It forms four-fifths of the air by volume, and in a state of combination, forms several important compounds. In combination with oxygen it forms nitric acid: this acid, when united with potash and soda, gives rise to the nitrates of those bases which are extensively distributed as natual products. Nitrogen is the characteristic ingredient of ammonia. It is found in coal, and is a constant ingredient of plants and animals. It forms an essential part of some of our most valuable medicines, as quinia and morphia, and also of some of the most dangerous poisons, as prussic acid.

PREPARATION.—The principal method of preparing nitrogen consists in depriving atmospheric air of its oxygen. If a little phosphorus or sulphur be carefully dried and placed upon a dish, and this allowed to float upon the water, then by igniting it and placing a gas-jar over it, so as to restrict the supply of air, the oxygen will be consumed and we shall have nitrogen left.

PROPERTIES.—Nitrogen is invisible, inodorous, and tasteless. It is rather lighter than atmospheric air, and is slightly soluble in water. It neither burns nor supports combustion; with every act of inspiration it is breathed into the lungs, but is of itself incapable of sustaining life.

EXPERIMENTS.—The only experiments which can be conveniently tried with this gas are such as illustrate its action on flame.

CARBONIC ACID.

COMPOSITION.—This gas is made up of two atoms of oxygen in combination with one atom of carbon. Carbon is the characteristic element of coal. The name is derived from Carbo—coal.

DISTRIBUTION.—1. This gas consists in small quanties in the air.

2. It is found largely in combination with lime, magnesia, shells, marble, corals, &c.

3. In some portions of the earth this gas is given off as a natural product, and is being constantly evolved in the neighbourhood of volcanoes.

4. Animal respiration is always accompanied by the production of this gas, at the rate of about 3 or 4 per cent. of the air breathed.

5. Fermentation is always attended with production of carbonic acid. It is this gas which gives the briskness to bottled beer, champagne, and other liquors. Many serious accidents occur through persons incautiously descending into empty fermenting vats before the carbonic acid gas has had time to escape.

6. This gas is produced by the burning of lime. Hence it is that persons who have sought shelter and warmth near a burning limekiln, have frequently lost their lives by inhaling this gas in large quantities.

7. Carbonic acid is met with in spring water.

8. It constitutes the choke-damp of coalmines, which proves so often fatal to the miners.

9. Carbonic acid is given off during combustion. The carbon of the combustible unites with the oxygen of the air, and carbonic acid is formed.

PREPARATION.—1. Carbonic acid may be prepared by burning charcoal in oxygen ; in this way, the diamond, which is nothing but carbon in its purest form, may be consumed, and will yield carbonic acid, but would prove a very costly experiment.

2. If one of the stronger acids, such as sulphuric, hydrochloric, nitric, or acetic, be diluted with eight or ten times its volume of water, and then poured upon broken fragments of marble, chalk, limestone, oyster-shells, or pearl-ash, this gas will be evolved.

TEST.—A test is a substance which, when added to another, shews the nature of that other, by producing some phenomena which is presented by no body but one, so that, if this phenomena be produced, it implies the existence of the only body that can produce it.

Carbonic acid possesses the property of rendering clear lime-water turbulent ; hence, lime-water is an ordinary test for carbonic acid. This turbidity is caused by the union of the carbonic acid and the lime in the water, producing carbonate of lime.

If a person blow through a tube into a glass containing lime-water, this phenomena will appear.

PROPERTIES.—At ordinary temperatures, carbonic acid is a colourless, transparent gas, with a slightly acidulous taste and smell. If subjected to strong pressure, it becomes condensed into a liquid as transparent and colourless as water. If a stream of liquified acid be allowed to escape into the air, it becomes a snow-white solid. The gas is not inflammable, neither will it support combustion. It is soluble in water, and is about half as heavy again as common air. When concentrated it is irrespirable ; when diluted with air, it may be breathed even without a suspicion of its presence. Even if the propotion do not exceed 3 or 4 per cent. of the air breathed into the system, its effects as a narcotic poison become evident.

EXPERIMENTS.—1. If a lighted taper be plunged into the gas, it is immediately extinguished, the gas being positively antagonistic to it, This gas has frequently been used as a means of extinguishing fires in coal-mines, and lately it has strongly been advocated in the colums of the daily press, as a means of extinguishing fires on board ships at sea, the gas being cheaply obtained and easily stowed away.

2. It is fatal to animal life, if breathed in any great quantity.

HORACE GREELY'S ADVICE TO BOYS.—Others may be richer in knowledge and wisdom than you, but a pure and lofty soul has no earthly superior, and should recognise none. Hold fast to whatsoever is righteous ; and whether clouds may for the moment enwrap you, and intercept the smile of heaven, never be so infidel as to doubt that the path of virtue is the path of safety—the only way that leads to perfect and enduring peace.

GEOGRAPHY OF AUSTRALIA.

LESSON II.—SETTLEMENT AND EXPLORATION.

IN our previous lesson we treated of the discovery of Australia and the islands in these seas, which the pupils will do well to note and trace out on the map, just as we expect they will do while going through this lesson. We now proceed to notice the first settlement by Europeans on Australian soil, and the subsequent explorations of the country from which resulted the formation of other settlements, and eventually the founding of other colonies, which are likely to become powerful nations in the course of time.

The American war having resulted in the loss of the colonies to which Great Britain sent her criminals, it became necessary to find some other country in which a penal settlement might be founded. The publication of Captain Cook's voyages about this time directed public attention to New South Wales. In 1786 the British Government issued the necessary Orders in Council, and made great preparations for carrying out this object. On the 13th May, 1787, the frigate Sirius, with the Supply, another ship of war, and nine other ships, sailed from the Isle of Wight, having on board 10 persons holding Government appointments; 202 military, including officers, with 28 women and 17 children, 81 other free persons, and 696 prisoners, of whom 192 were females: in all 1044 souls—under the command of Capt. Arthur Phillip, R.N., who was appointed Governor and Commander-in-Chief of New South Wales. Having called at Teneriffe, Rio Janeiro, the Cape of Good Hope, for supplies, the fleet sighted land on the 3rd January, 1788, and on the 18th of the same month the Supply, on board of which the Governor was, entered Botany Bay. The next day three other ships entered, and on the 20th the rest of the fleet. Beautiful as the country around Botany Bay appeared to Cook and his companions, it became plain to Governor Phillip that it was not the place to be selected as the site of the southern metropolis. The bay was found to afford bad anchorage with little or no shelter, while the country around appeared to be all swampy. The Governor determined to examine the other ports marked on Captain Cook's chart. Beginning with Port Jackson, he found it to be all that he could desire—a harbour not to be surpassed by any in the world. To Port Jackson the fleet was moved; and on the 26th January, 1788, it cast anchor in Sydney Cove, when the troops were landed and the British ensign hoisted. Tents were speedily set up beside a clear stream that then flowed where the main sewer is now constructed. Hence the celebration of the anniversary of the colony on the 26th of January, in which all Australia should participate. Those who could build houses speedily set about it, and as selection of sites had to precede survey, under such circumstances as those of the "first fleet" found themselves, the irregular streets in the older parts of the city, and the obtruding edifices on the principal thoroughfares—are the result.

A week after the establishment of the settlement at Sydney Cove, Lieut. P. G. King, was sent with a party to form a settlement at Norfolk Island. This was kept as a place for the punishment of refractory criminals until 1856, when it was given up to the descendants of the Bounty mutineers, who became so numerous at Pitcairn Island, under the patriarchal care of John Adams, that it could no longer afford them sustenance.

Not much time was lost in clearing land and turning up the soil at the head of the Parramatta River, both by the Government and the free settlers. The first wheat brought to market was grown by James Ruse, at Toongabbee, two miles from Parramatta, in 1792. In June, 1789, Captain Hunter, who was accompanied by Governor Phillip, visited Broken Bay and explored the south arm, which he named Pitt Water. A few days afterwards he discovered the Hawkesbury River. Pushing up this discovery, the whole party proceeded as far as the Richmond Bottoms, to the part where the river divides into two arms—the Grose and the Nepean. Had those early discoverers known the extent of country drained by each of these—how little by the former, and how much by the latter—there can be little doubt but that the Hawkesbury, the Nepean, the Warragamba, and the Wollondilly, would be regarded as the same river, and bear the same name. On the hill on which Richmond stands the party rested, charmed with the beauty of the scenery. The soil was found to be extremely rich, but subject to great floods. A few years afterwards, many of the settlers, dissatisfied with the character of the soil at Parramatta, pushed on to the fertile banks of the Hawkesbury and the Nepean, where many of the discharged soldiers and retired officers obtained grants in proportion to their rank in the army.

During the years 1793 and 1794, several bold attempts to penetrate the interior over the Blue Mountains were made, chiefly through the deceptive opening presented by the valley of the Grose. Among those who made these unsuccessful attempts, were Capt. Paterson, the African explorer; Hacking, one of the officers of the Sirius; and Dr. Bass, a young surgeon belonging to the navy, the discoverer of the strait between Australia and Tasmania. In 1799, a convict named Wilson, who had been for some time living with the blacks, made his way over the mountains as far as the river now known to be the Macquarie, but his story at the time was discredited. It is now known that he was correct in every particular. The country beyond the Blue Mountains remained *terra incognito* until 1813, when Messrs. Blaxland, Wentworth, and Lawson, who, in order to obtain pasture for their increasing herds, crossed the Nepean at Penrith, and cut their way through the bush and thorny scrub as far as the Vale of Clwyd, where the Hartley Kerosene Works are now in operation. In 1795 the blacks brought in word to the settlement that there were large animals, like those possessed by the farmers, roaming about in the interior. Conducting the parties sent to test the accuracy of this account, the blacks brought them to a country well watered, where, after a little, a herd of cattle was seen, consisting of about 60 head, the progeny of two bulls and three cows that had escaped shortly after the arrival of the first fleet seven years before. The suitability of the climate and soil for grazing purposes was now demonstrated. The cattle were left there and the locality was called the Cowpastures.

In 1796, Dr. Bass, already mentioned, and Mr. Flinders, then a young midshipman, started from Port Jackson in an open boat only eight feet long, proceeded along the coast as far as the Five Islands, which they discovered, and put into the lagoon, which they called Tom Thumb's Lagoon, after the little boat in which they sailed. Here they had an amusing interview with the natives, shaving, at their own request, several of them. Some months afterwards, the same adventurers obtained a whaleboat from the Governor, with six weeks' provisions, and a crew of six men, to make a further examination of the coast. Having passed their former discoveries at Illawarra they discovered the mouth of the Shoalhaven River, which they named, and keeping on their course visited Jervis Bay, Bateman's Bay, Twofold Bay, and Cape Howe, which had previously been seen by Capt. Cook; they rounded Wilson's Promontory and discovered Western Port on the 4th January, 1798. Their provisions being now nearly exhausted they returned to Sydney. In the October following they set off in a small vessel to complete their exploration of the coast. They discovered during this expedition Kent's Group, the river Tamar in Tasmania, and keeping on their course they entered the Southern Ocean, rounded the South-west Cape, and South Cape, and entered Storm Bay; thus demonstrating the fact that Van Diemen's Land was an island, and not, as was formerly supposed, a part of the Australian Continent. After examining the Derwent River, which had been discovered by Capt. Hayes, who put in there while on a voyage from England in 1794, they returned to Sydney. In the July following, Flinders was sent by the Governor to examine Moreton Bay and Hervey Bay. This voyage was not so successful as the last, for he returned to Sydney and reported that there was no navigable river between Hervey Bay and the Hunter. Having gone to England, he published an account of his proceedings. He was sent out again in 1801. At this time he was promoted to the rank of commander. With a picked crew, he sailed in the Investigator and made Cape Leeuwin 7th December, and shortly afterwards anchored in King George's Sound, which he named. The natives he found to be numerous, peaceable, intelligent, and resembling those of Port Jackson.

Proceeding along the coast he discovered St. Vincent's Gulf and Spencer's Gulf. At Kangaroo Island, which he also discovered, he found the animals and birds so tame as to submit to be taken, and even shot in vast numbers without the slightest attempt to escape. A sure proof that here, as well as in the islands in Bass's Strait, where similar tameness was shown by land and marine animals, that these places were not inhabited by man. Pursuing his course towards Sydney he discovered Encounter Bay, where he met a French vessel on an exploring expedition—a circumstance that led Flinders to give it this name. On the 26th April he entered the large harbour of Port Phillip, which had been discovered by Lieut. John Murray a few weeks previously; but of this latter fact he was ignorant until his arrival at Sydney about two months afterwards. It is rather singular that it was the coast now explored by Flinders, that Dean Swift, a century before laid as the scene of "Gulliver's Travels."

Returning to the inland discoveries, we find that the successful efforts of Messrs. Wentworth, Lawson, and Blaxland to cross the Blue Mountains, induced Governor Macquarie to send Mr. Evans, assistant land surveyor, with a few attendants on an exploring expedition to the interior. Having followed the track already made as far as Mount York, he proceeded westward for about 150 miles from the Nepean, discovering during his journey Bathurst Plains, the Macquarie and the Lachlan rivers. The first mentioned was named after Earl Bathurst, secretary of state, and the rivers after the surname and christian name of the governor that then guided the affairs of this country. This journey occupied about seven weeks. When he returned he gave such a glowing account of the country he had travelled that most of it was soon taken up for pastoral purposes. In 1817, Mr. Oxley, surveyor-general, was sent on an exploring expedition, designed to follow up the discoveries already made by Mr. Evans, who accompanied the party, which consisted of thirteen persons. They arrived at Bathurst in April, where they found a flourishing settlement. Proceeding onwards they reached the Lachlan, where the natives were found in considerable numbers, and also wild fowl and excellent fish of a peculiar kind, in great abundance. They continued to follow down this river through innumerable swampy plains, scrubs, and forests, to within a few miles of its confluence with the Murrumbidgee. They then retraced their steps and took a north-easterly direction, over country of a red sandy loam. Having travelled 100 miles from the place where they turned from the Lachlan without finding any water, they changed their course eastward, when they met several fine streams, and in a few days after fell in with the Macquarie, which they followed up as far as Bathurst, reaching that place about the beginning of October. In May following, Mr. Oxley set out again with Mr. Evans and many of his former companions, provided with two boats as well as carts. He reached the 148th deg. of longitude and 31st deg. of latitude, where the river became apparently lost in marshes and scrubs, from which Mr. Oxley inferred he had come to the borders of an inland sea. Here he changed his course, and fell in with the Warrambungle, or Arbuthnot Range, on the 27th July. Proceeding onwards he discovered the Castlereagh River, which he named after Lord Castlereagh. Some days after this he came to a mountain when the compass became so disturbed as to cause the needle to point to the south. This he named Loadstone Hill. Having ascended Mount Egmont, 3,000 feet high, he directed his course eastward through a broken country, discovered the splendid pastoral district of Liverpool Plains; and on the 2nd September he discovered the Namoi which he named the Peel, in honor of our great English statesman. Still proceeding eastward, he crossed the dividing range, and after crossing many precipitous mountains and deep ravines, he observed Mount Seaview, which he named. Shortly after he came to a fine stream, which he named the Hastings. This river he followed down to its embouchure, which he named Port Macquarie. Here he turned southward, and those who know anything of the country along the coast, will be able to form some idea of what his party endured during their journey to the Hunter, the nearest European settlement. While on this journey he discovered the Manning River, the Karuah, and other streams.

While these discoveries were being made in the western and northern interior, others were penetrating the south-western part of the country. In 1814, Mr. Hume, a native of Parramatta, advanced as far as Berrima. In

1816, the same gentleman, accompanied by Mr. Mehan, government surveyor, went so far inland as to discover the Wollondilly River, Goulburn Plains (which they named after the gentleman then filling the office of Colonial Secretary), Lake George, and other places in the County of Argyle, to which they gave the name of "The New Country," and of which a great portion was soon taken up for pastoral purposes. In 1824, Mr. Hume, accompanied by Mr. Hovell and eight attendants, undertook an expedition, which proved to be one of the most important in its results. The Government provided them with a slight outfit. Setting out from Appin, October 2nd, they passed through the New Country to Gap Range, the most distant part then known to the settlers. On the 19th they discovered Yass Plains, and in a day or two afterwards, the Murrumbidgee River. After exercising much patient toil, and encountering extraordinary difficulties, as they journeyed past the Australian Alps, they arrived on the 2nd November, at a noble river, 250 feet wide, which they named the Hume. They crossed the river at a ford near Albury, and arrived at a river they named the Ovens, after Major Ovens; on the 24th, some days after, they came to another, which they named the Goulburn. Proceeding in the same direction, they reached Port Phillip at a spot near Geelong on the 16th of December. On the 18th, they commenced their return journey which was equally successful.

In 1825, Mr. Allan Cunningham, who had accompanied Mr. Oxley as a botanist, made a tour to the Liverpool Plains ranges, and discovered the gap he called Pandora's Pass. The following year he started from Brisbane, a penal settlement at Moreton Bay, on the Brisbane River (which was discovered two years before by a shipwrecked seaman named Thomas Pamphlet), and in crossing the dividing range discovered the pass called Cunningham's Gap, the Darling Downs, and the Condamine River; then taking a southern direction to Sydney, he discovered the Gwydir River and other streams on his journey.

At this period very great uncertainty and speculation prevailed respecting the interior. The direction of all the great rivers was westward, or towards some parts of the interior, which seemed to support the idea Mr. Oxley entertained of an inland sea. But Mr. Wentworth and Mr. Hume always entertained a different opinion. This part of the geography of Australia was cleared up by Capt. Sturt, an officer of the 39th Regiment.

In 1828, Capt. Sturt set out on an expedition in order to determine the question of an inland sea. Starting from the marshes on the Macquarie, he proceeded through vast swamps and scrubby ridges for 200 miles, when he reached a great river, which he named the Darling, in honor of the gentleman who was then the Governor. Proceeding along its banks he came to a river called by the natives the Bogan, which he traced upwards for 50 miles. Turning north, he struck on the Castlereagh River and followed its course for about 100 miles, where he found it to be an affluent of the Darling, which he found to be as salt there as at the place where he met it before. The whole party then returned to Sydney. In November, 1829, Sturt went on a second expedition, his object being at this time to follow the course of the Murrumbidgee, previously discovered by Mr. Hume. He was accompanied by Mr. G. Macleay, and several attendants. Leaving an out station at Lake George, he crossed the Yass and Tumut rivers, and following the course of the Murrumbidgee, which he found to abound with fish, he came to the place where it receives the Lachlan. Still following its course, he came to its confluence with the Hume, at this part a noble river increasing in width from 350 to 600 feet wide. This he named the Murray, in honor of Sir George Murray, then Secretary of State for the colonies, a name which has superseded that given it by its first discoverer. On the 24th of January, 1830, the party, which he had previously reduced to six persons, and who now were proceeding in a boat they had brought with them, reached the confluence of the Darling with the Murray, where the natives were found very numerous, but not very hostile. Following the united stream, the party entered a spacious lake, which was discovered to be an inlet from Encounter Bay, and which, it was evident, receives the waters of the vast interior of this continent. This lake he named Lake Alexandrina, in honor of Her Majesty.

On the 14th of February he commenced his return journey. After much suffering and hardship during their progress against the force of the stream for several hundred miles, in which their power of endurance was severely tested, the party arrived in Sydney on the 25th of May.

These two expeditions of Capt. Sturt set at rest the question of an inland sea in the interior, but his subsequent attempts at exploring the inland parts in South Australia, led to an impression, very generally entertained, that the greater part of the continent, inland, was one great desert. This idea has been entirely exploded by the other explorers, who have subsequently penetrated the heart of the interior from various parts. And not only is this opinion shown to be erroneous, but another, that from the great Australian Bight to the Gulf of Carpentaria is a dead level, which, up to a recent period formed a bed of the sea. The interior here, as well as in other parts, has its mountains of moderate elevation, its pasture lands, and its rivers.

As our space has already been exceeded, we cannot do more than merely mention the principal explorers. Sir Thomas Mitchell, surveyor-general, made several expeditions into the interior between the years 1829 and 1847, when he explored the Darling, penetrated the interior as far as the Tropic of Capricorn, and discovered the Victoria River (the Cooper's Creek of Sturt), the Fitzroy Downs, and various other places in Queensland. Dr. Leichardt, in 1844, made a most successful expedition, from Brisbane to Port Essington, which had been previously discovered by Capt. King, in 1818. He crossed and named those rivers falling into the coast along that route. As this journey added more to a knowledge of the coast districts than the interior, he set out on another expedition in 1846, intending to cross the continent to Swan River; but he has not been heard of since. His party is supposed to have been murdered by the blacks not long after leaving the Fitzroy Downs—a fate that befel Mr. Cunningham on the Bogan, and Mr. Kennedy on Cape York Peninsula in 1847. Most of the expeditions into the interior of late years were chiefly with a view of discovering the fate of Dr. Leichardt. In 1856, Mr. Gregory started inland from Cambridge Gulf, and penetrated through an uninviting country as far as latitude 20 degrees. Mr. Macdougall Stuart, in 1860, went right across the centre of the continent to a point between the head of the Gulf of Carpentaria and Cambridge Gulf, where his progress was stopped by the hostility of the blacks. Messrs. Burke and Wills lost their lives after being the first to cross overland to the Gulf of Carpentaria in 1861. In 1862, Mr. McKinlay, who went in search of Burke and Wills, made some valuable discoveries of fine country; and Mr. Landsborough made perhaps the most successful journey to the Gulf of Carpentaria; also in 1862, and with the same object, his journey having happened to be through very fine country; and, like Messrs. Wentworth, Blaxland and Lawson, in 1813, always resting on the Sabbath. Most of the interior visited by these explorers is now taken up for pastoral purposes.

INTELLIGENCE.

"Manning River Teachers' Association."—A regular fortnightly meeting of this Association was held in the Tarree Public School, on Saturday the 5th instant, at which 12 members were present.

The chair having been taken by Mr. Stevenson, and the minutes of the preceding meeting read and confirmed, Mr. Birch moved and Mr. Lobban seconded—that "a deputation be appointed to call on J. W. Allpass, Esq., who has just arrived on the river, and is now in town, and invite him, on behalf of the Association, to come up and listen to the proceedings of the meeting." The motion was carried unanimously, and a deputation, consisting of the mover and seconder, was requested to proceed at once to the lodgings of that gentleman for the object mentioned in the motion, which they did accordingly, and in a few minutes returned in company with Mr. Allpass, who remained during the whole time of the meeting, and whose suggestions and criticisms proved exceedingly beneficial to the meeting, and were thankfully received by all the members present.

The business disposed of, according to the business paper, was as follows :—

A lesson on multiplication of algebra, by Mr. McKinnon. A demonstration of the 4th Proposition of Euclid, by Mr. Birch. A reading from the Literary Class Book, by Mr. Bowes. A lesson on the Physical Geography of Asia, by Mr. Thomson ; and Arithmetical Solutions, by Mr. Lobban.

Mr. Smith then gave notice that at the next meeting he purposed bringing forward the following notice of motion :—

"That a memorial be drawn up, and signed by all the members of this Association, to be forwarded to the Council of Education, praying that a uniform rate of school fees be fixed for all schools in the Manning River District."

The business paper for next meeting was then filled up as follows :—

Algebra, by Mr. Stevenson ; Geometry, by Mr. Cameron ; Arithmetic, by Mr. Henderson ; Grammar, by Mr. Thomson ; a reading, by Mr. Burnet. After which the meeting adjourned.

CANADA (UPPER). REPORT FOR THE YEAR 1866.

I.—THE COMMON SCHOOLS. 1.—RECEIPTS.

The amount apportioned from the legislative grant for the salaries of teachers in 1866, was 169,490 dollars.

The amount apportioned and paid from the legislative grant for the purchase of maps, apparatus, prize books, and libraries, was 14,016 dollars.

The legislative grant is apportioned and paid to each municipality, upon the condition that such municipality provide, at least, an equal sum by local assessment ; but such municipality is empowered to provide as large an additional sum as it may think proper for the education of the youth within its jurisdiction. The amount provided by municipal assessment was 319,154 dollars ; and by voluntary act, in excess of legislative grant, 149,664 dollars.

Each township is divided by the Municipal Council into school sections of from two to four miles square each. Three trustees are elected by the ratepayers of each school section. The trustees hold office for three years—one going out of office, and his successor elected annually. The trustees of each school section have the same discretionary powers as each Township or County Council, to provide, by rate on property, for school purposes. The amount thus provided by trustees, by rate on property, for 1866, was the large sum of 760,366 dollars (in addition to the municipal assessment of 319,154 dollars)—increase, 49,169 dollars. The increase of the preceding year, under the same head, was 51,816 dollars.

Whether a school shall be wholly supported by rate on property, and, therefore, *free* to residents from 5 to 21 years of age without fee from any pupil, or, whether the school shall be partly supported by fees or rate-bills, is determined by the ratepayers at the annual meeting, or at a special meeting called for that purpose. In cities, towns, and incorporated villages, the elected Board of Trustees determines whether the schools shall be free or not. In no case can a rate-bill be imposed exceeding twenty-five cents. a month for each pupil, and may be as much less as the ratepayers or Board of Trustees decide.

The amount of rate-bills collected from pupils in 1866, was 53,482 dollars—a decrease of 7,214 dollars—showing an increase of the Free School system.

The amount received from the Clergy Reserve Fund and other sources, was 102,339 dollars.

The Clergy Reserve Fund is at the discretionary disposal of the municipalities ; and many of them have nobly applied it to school purposes.

The amount available from balances of 1865, was 189,121 dollars.

The total amount provided for Common School purposes for 1866, was 1,607,971 dollars—an increase of 62,970 dollars, the largest increase of any one year since the establishment of the School System.

2.—EXPENDITURE.

For salaries of teachers	1,066,080 dollars.
For maps, apparatus, prizes and libraries ...	29,752 „

For sites, and building school-houses	111,371	dollars.
For rents and repairs of school-houses ...	41,789	„
For schoolbooks, stationery, and other expenses	137,439	„
Total expenditure for Common School purposes	1,387,233	„
Balance of school moneys not expended at the end of the year	220,738	„

3.—Returns of Pupils, &c.

An old statute requires the returns of school population to include children between the ages of 5 and 16 years; but the school law confers the equal right of attending the schools upon all persons between 5 and 21 years of age.

School population (including only children between the ages of 5 and 16), was 431,812; and the number attending schools, was 369,768. The number of pupils of other ages, was 21,127. The number of boys attending the school, was 208,589; and of girls, 182,306. Indigent pupils, 3,932. The number of children reported as not attending any school whatever, was 40,336.

4.—Returns of Teachers, &c.

In the 4,379 schools reported, there were 4,789 teachers employed, of whom 2,925 were males, and 1,864 females; teachers holding certificates, 4,662; without certificates, 127. The number of schools having more than one teacher, was 208. The highest salary paid a teacher in a county, was 600 dollars; the lowest, 93; the highest in a town, 800 dollars; the lowest, 162. The number of school-houses reported as 4,399, and of the value, with premises, of 2,097,922 dollars.

5.—Text Books, &c.

The Council of Public Instruction have succeeded in establishing uniformity of Text Books in the Public Schools, and have taken steps to provide an improved and strictly Canadian series, so as to render them as perfect in matter and method, as good in quality and as moderate in price as possible. The maps, globes, and various articles of school apparatus are supplied on the voluntary application of the local authorities, who provide and transmit one-half the cost.

6.—Superannuation.

The legislature has appropriated 4,000 dollars per annum in aid of superannuated or worn-out Common School teachers. The allowance cannot exceed 6 dollars for each year that the recipient has taught a Common School in Upper Canada. Each recipient must pay a subscription to the fund of 4 dollars each year. The average age of each pensioner, in 1865, was 69 years; the average length of service in Upper Canada was 21½ years.

7.—The Educational Museum.

This consists of a collection of school apparatus for Common and Grammar Schools—of models of agricultural and other implements, of specimens of the natural history of the country, casts of antique and modern statues and busts, copies of some of the works of the great masters of the Dutch, Flemish, and Italian schools of painting.

8.—Free Public Libraries.

These libraries are managed by the local Municipal Councils and School Trustees, under general regulations, established, according to law, by the Council of Public Instruction. The books are procured by the Educational Department, from publishers both in Europe and America, at as low prices as possible; and a carefully prepared classified catalogue is sent to the trustees of each school section, and the council of each municipality. From this catalogue, the school or municipal authorities desirous of establishing or increasing a library, select such books as they think proper, and receive from the department not only the books at cost prices, but an apportionment of one hundred per cent. upon the amount which they provide for the purchase of such books. None of these books are provided by the department for any private parties except teachers and local superintendents for their professional use.

ORIGINAL CORRESPONDENCE.

(Writers of all communications intended for publication in this Journal must furnish us with their names, not necessarily for publication, but as a guarantee for good faith and correctness. The Conductors of the Journal are not responsible for opinions expressed by correspondents.)

GEOGRAPHY.

To the Editor of the Australian Journal of Education.

Sir,—In sending you a short article on River Basins, which I can continue if you approve of this introductory paper, I beg to invite your attention to a want, a geographical want, which I have lately felt.

I have been wishing very much that I had an atlas of Australian geography for my pupils, something like Philips' Shilling Atlas. I seem to have instilled into some of my pupils a love for map drawing, and they will soon exhaust the atlas I have provided for them (P. S. A. above mentioned).

Besides this want of copy for them, I should prefer that they devoted their attention to the Geography of their native land rather than to a foreign part. I have an Australian atlas, but it is far too expensive for my pupils. Can you help me?

I am, Sir,
Yours respectfully,
Hydro.

[The only Australian Atlas we are acquainted with is *Pearson's*. Hydro should see a copy and judge whether it meets his requirements.—Eds.]

To the Editor of the Australian Journal of Education.

Sir,—A short time ago I had occasion to write the "Notes of a Lesson on New Zealand," and while so employed, was somewhat puzzled with the discrepancies I met with in various works, respecting the dimensions of the two principal islands which form the greater portion of that colony. I therefore avail myself of your pages, as a medium of directing attention to the matter, trusting that some of your correspondents may be able to resolve the doubt, and so render a service to myself and probably to some of my fellow teachers.

In Hughes' Manual of Geography, latest edition, the following dimensions are given:—

"Its breadth is very various, and in the widest part scarcely exceeds 150 miles."

"Area of the North Island about 54,100 square miles.
,, South Island ,, 44,500 ,,
,, Stewart's Island 900 ,,

I have consulted Chambers' Cyclopædia, Dr. Thomson's valuable work on New Zealand, and two or three others, and they all differ from Hughes in two important particulars.

1. They all state the greatest breadth at more than 200 miles.
2. They have the area of the Middle island exceeding that of the North island, by at least 10,000 square miles.

Now, Sir, the conclusion I have arrived at is—that Hughes' Geography is incorrect in both instances respecting the area of the two islands. I am inclined to think that the figures have been transposed, and on that supposition there will not be any discrepancy worth mentioning, for the totals are probably as near as we could expect from different writers, respecting what may be termed an imperfectly surveyed country. If, therefore, any of your correspondents will kindly furnish information which approaches as near to actual certainty as we have a right to expect, under the circumstances, he will confer a boon on,

Sir,
Yours respectfully,
J. R. L.

To the Editor of the Australian Journal of Education.

SIR,—I beg to offer a few remarks on Mr. Cameron's notes on the Geography of Australia.

In my opinion, Mr. Editor, notes of a lesson should not only contain simply the subject matter of the lesson, intended to be conveyed to the minds of the children and arranged in a systematic manner, under different headings, but also the *way* or *methods* the teacher intends to employ in delivering the lesson.

The *time* also which Mr. C. would take in giving it is not stated, as also the *time* he would occupy at the end of the lesson, to ascertain if the lesson had been given at all, for we know a lesson is not given unless it is received by the class, or the majority of the class.

I think also, in writing notes we should avoid making a great number of heads, not more than is really necessary. I think Mr. C. has too many for the subject matter. He might have headed it thus:—

PHYSICAL FACTS.

I.—POSITION AND EXTENT.

II.—COAST LINE.

a.—Projecting Points.
b.—Indentations.

Mr. C. should have italicised the difficult words for spelling and explanation, and informed the class why such and such a cape, &c., received its name, and so have interested the children. Take the lesson as presented to us, it is very dry and uninteresting, and would require not a little tact, on the part of the teacher, to keep up the attention of the class, which is very necessary.

The heading—"*Form of dimensions*" seems obscure to me, perhaps Mr. C. means—*Form and dimensions.*

Also the headings— "*Coast line,*" *Projecting points,*" and "*Indentations,*" seem co-ordinate to each other, they might have been written—

COAST LINE.

a.—Projecting points.
b.—Indentations.

And last, though not least perhaps, we are not informed if any map, blackboard, or diagram of any sort should be made use of in giving the lesson.

Hoping these remarks may be taken in the same kindly way as given by

W. W. DUNGOG.

To the Editor of the Australian Journal of Education.

SIR,—If you, or any of your numerous subscribers, would analyse the following passage, you would oblige several teachers on the Macleay River, viz.:—Third Book, I.N.B, lesson XL.—"A swallow observing a farmer employed in sowing hemp, called the little birds together, informed them what he was about, and told them that hemp was the material *from which* the nets, so fatal to the feathered race, were composed; advising them to join unanimously in picking up the seed, in order that no crop might appear."

Yours, &c.,

West Kempsey, 20th August, 1868. G. SIMPSON.

To the Editor of the Australian Journal of Education.

SIR,—I fear I may be looked upon by some of your correspondents, who have lately favoured us with their views of "What is what," as an imbecile, when I implore them in the name of common sense to write (if they can) their future effusions in English. I cannot for the life of me see the necessity of so profusely interspersing a letter with garbled French phrases, or threadbare Latin quotations, unless indeed, it be to hide the author's meaning from the majority of those who may try to read it; or as an ostentatious display of the writer's extraordinary acquirements. Everybody who is in more or less exclusive possession of any knowledge, is apt to exaggerate its importance. Jeremy Taylor expresses this when he says "Man is hugely apt to esteem himself better than his brethren, if he knows some little impertinences, and them imperfectly, and that with uncertainty." Hoping *I* may not be considered *impertinent*,

I am, Sir,
Yours faithfully,
A. T.

To the Editors of the Australian Journal of Education.

GENTLEMEN,—Having put on my programme for this quarter Kerosene Oil as a subject for an Object Lesson, I went to the American Creek Kerosene Works to take notes; and, as they may be useful to other teachers, who have not opportunities for visiting such a place, and also, as the manufacture of Kerosene Oil is likely to become an important industrial occupation in this colony, I beg to hand you the notes for publication if you deem them worthy of it.

I would like to submit for publication the lesson, including matter and method, as given to the class, for the sake of eliciting criticism, especially with regard to the method. Is this allowable?

An answer in your next publication will oblige

Your obedient Servant,
Wollongong, 24th August, 1868. C. H. S.

KEROSENE OIL.

Description and preparation.—Kerosene oil is extracted from a mineral called Kerosene Shale, which is found in the Illawarra District, and near Hartley, and probably lies concealed in many other parts of Australia. The shale is of a dull black colour, somewhat resembling slate in appearance and structure, and is generally found near coal beds; it is extremely tough, and requires to be split into flakes or slabs with mauls and wedges, which indeed is the only mode of procuring it from the mine; it cannot be brought down with a pickaxe in the same manner as coal, therefore it requires more labour in getting it. The mine in the Illawarra District is situate about five miles from Wollongong, at American Creek. The entrance to the mine, which runs in a parallel direction into the side of the hill, is at the base of Mount Kembla, a peak of the Illawarra Range, and between five and six hundred feet above the sea level. The bed of shale, which is about twenty-one inches in thickness, is arrived at in much the same manner as coal (in Illawarra), that is, by means of a drive dug into the side of the hill: the shale is brought out on small trucks or trollies in large slabs, often weighing from ten to fifteen hundredweight each, and sometimes as flat and even as the top of a table: the trollies run along a tramway laid in the mine and extending some distance outside to a rough shed, in which several men are engaged splitting the large slabs into smaller pieces of about two pounds weight. It is now ready for the retorts, of which there are about twenty. The smaller pieces are placed on a trolly and taken along a tramway to the retorts, which are built over a furnace and hold about one and a half hundredweight each. When they are filled, a top is screwed tightly on them to prevent the ingress of air, the furnace is now lighted, and the intense heat soon renders the retorts and their contents red hot. The heat, which is applied for about six hours, causes the oil in the shale to evaporate and pass through iron tubes attached to the ends of the retorts and connected with a general pipe that passes, in the shape of a worm, through a tank of cold water, and leads to an empty tank, into which is discharged a thick dirty-yellowish liquid, that has been condensed in its passage through the pipe. This is crude oil, and is similar to the American oil when first obtained from the wells. It is pumped into a still and distilled. After undergoing this process, it is put into large round tanks, and chemicals mixed with it: the whole is stirred violently by means of a wooden wheel, somewhat resembling the paddlewheels of a steamer: this wheel is made to revolve rapidly by an engine. Having been stirred for a sufficient length of time, it is allowed to subside, the impurities sink to the bottom, and are let out through a tap attached to the bottom of the tank. The oil, which is now pure and fit for use, is pumped into another tank, from which it is drawn and put into square tins containing four gallons each. These tins are placed in wooden cases and sold.

About 1,200 gallons of pure oil are manufactured per week. During the process of distillation, a sediment is left in the bottom of the still, resembling tar, but of a more unctuous nature: it is used for lubricating purposes.

Properties.—Kerosene oil is so very penetrating that it will leak through an aperture too small for water to pass through. It is extremely volatile, emits an unpleasant odour, and is very inflammable.

Uses.—It is used for giving light, and, being very volatile, is used for mixing with paint.

To the Editor of the Australian Journal of Education.

Sir,—In your June number, I was much pleased to see a letter referring to the diversity of School Reading Books at present in use. It is time some attention was paid to the subject, for, with few exceptions, the present books are very unsuitable, and could easily be improved. We need an entirely new set of books, expressly for the colony. They should contain interesting stories, select poetry, useful fables, readings from natural history with express reference to Australia; notices of other countries, and English History in an entertaining form.

In the First and Second Books, the reading should nearly all be of an amusing kind. Good reading will never be obtained in our schools while children are obliged to read what is only fit for adults. I cordially endorse all that Mr. Morrison, in his work on School Management, says with regard to our reading books. I think such a lesson as the following, which abler minds could improve, would be suitable for the natural history portion.—The Opossum is a native animal of Australia. It is one of the order termed Marsupial, or pouched animals, from the Latin word *marsupium*, for a pouch or purse. The distinguishing mark of this order being the pouch in which they carry their young. Most of the Australian animals belong to this order. The opossum is about the size of a large cat, its length being from 20 to 24 inches. Some of them weigh as much as ten pounds. There are two species in Australia. The common and the ringtail. Their covering is of fur, of a mouse colour, and their cry, or noise which they make, a kind of laugh, commencing loud and gradually dying away. The opossum is a nocturnal animal, never venturing forth by day, but sleeping in hollow logs and spouts of trees. It feeds on grass, leaves, and any thing green, and is very fond of maize; it also eats bread, and has been known to enter the tents of persons sleeping in the bush and carry off their provisions.

The opossum rears several families during the year, but never has more than one young one at a time. When born, the young are destitute of fur, and are carried in the pouch for some time. When old enough it takes its seat on the mother's back, and is carried by her from limb to limb. In the moonlight evenings they may often be seen sitting amid the boughs a short distance from each other, and then present a very pretty sight.

Opossum hunting is a favourite diversion in the bush. Several persons gather together, armed with guns, and accompanied by their dogs, which are extremely fond of the sport. The dogs scent out the game and bark at it till the hunters arrive and shoot it, or shake it from the tree, when it is killed by the dogs. The writer remembers an amusing circumstance that happened to a friend of his, who was hunting with a little dog. The opossum seized the dog and actually carried him away up the tree. The opossum is often eaten by the whites, and forms the chief food of the blacks.

In the settled districts, since the blacks have departed, the opossums have become very numerous, and were they not shot, would be quite a pest to the fruit-gardens.

The skins are sometimes used for lining boots, but they are chiefly used for making rugs. When required for this purpose, the opossums are carefully killed, that the fur may not be destroyed. When the skins are removed they are pegged out on some suitable substance, as sheets of bark, &c., till thoroughly dried, they are then cut square and sewn together with strong thread until a rug is formed of the required size. These rugs are very useful to bushmen, or persons travelling.

A species of opossum is found in America, which, in their habits, &c., very much resemble those of this country.

I remain, Sir,
Yours respectfully,
A. Lansdown.

Tirranna,
13th August, 1868.

OUR JOURNAL.

To the Editor of the Australian Journal of Education.

Sir,—Gratitude is a pleasant sensation, and I like to indulge it when I have the opportunity.

If you were anything but a myth, I should have a feeling of gratitude to you for a monthly supply of mental pabulum in the production of "Our Journal." As it is, I can only enjoy a mythical shaking of hands and congratulations on the success of the abovenamed periodical.

Do you not think a little wider margin would be an improvement? I know it would be a great convenience for making notes upon.

Some of your correspondents appear to me to be too intent on what may be termed showing off. In such cases they are apt to be hypercritical, and to find fault unnecessarily. It is easy to find fault when it is very difficult to do better. I am very thankful to the writer of the articles on the Analysis of Sentences for the labour he has bestowed on that interesting and unsettled subject. He must, I am sure, have been annoyed by the weak attempts at display which have appeared in the correspondence. I do not regard "Oxoniensis" as belonging to the class of writers above referred to. I, like him, have often met with what I thought oversights in the articles on Analysis, but I did not think it was fair to carp at trifles, where such good service was being done to the subject on the whole.

I do not agree with "Oxoniensis" in his remarks about "forth" in the May number. Its place in the extension seems to me to be right. There are cases in which the analysis is very much simplified by putting a preposition with the verb in the simple predicate; this is not one of them. Should not "I will be" in the last line, on page 267, be "I shall be"?

Before I close this letter, I should like to ask you if a few papers on "The English Language and Literature" would be acceptable? I would write an article, and send it to take its chance, on some subjects, but on this I am too doubtful. Should you ask me how many papers I am prepared to write, I may anticipate by saying a dozen if you like; and I could wish to be allowed more than eight pages of note paper such as mine.

I am, Sir,
Yours faithfully,
Scrip.

[Will Scrip inform us as to the method of his papers on English Literature, in order that we may be in a position to judge of their suitability to our journal.]

A GIGANTIC ANT-HILL.

To the Editor of the Australian Journal of Education.

Sir,—As you have expressed a wish in the first number of your journal, that teachers in the country would send you an account of natural curiosities, &c., in their districts, I beg to forward you the following description of an Ant-hill, within three miles of my school, which, having heard of, I lately visited. It belongs to the ordinary, small, brown ants, and resembles a flattened dish-cover in shape, the longest diameter measuring about seven yards, the shortest nearly five, with a circumference of not less than twenty-two yards. It is remarkably regular in form, and raised in the centre about two and a half feet. Not a blade of grass grows within from three to five feet of the nest proper; but, beyond this cleared space, are distinctly seen eight high roads, radiating in as many directions, leading from the *city* to the surrounding country. In the immediate vicinity of this metropolis, these roads are very wide, three of them measuring each five or six feet at the entrance, rapidly narrowing, by graceful curves, to six inches, then slowly narrowing to two, and finally vanishing. These roads also are perfectly bare of grass as far as they can be traced. One of these I followed for twenty-five yards from the nest; another was visible for forty; but a third could be traced for forty-five yards; while a fourth was divided (the only instance of division in an ants' road that I have seen) at twenty-three yards from the nest, measuring, by one arm, forty-two yards, and by the other, forty-five. Perhaps the strangest fact is yet to be told. The small, gravelly stones, of which the whole nest appears to be built, are very scarce in all that part of the district.

Trusting that the above, the truth of which I warrant, may be deemed worthy a place in the journal,

I am, Sir,
Your obedient Servant,
Freeman's Reach. W. H. WOOSTER.

AN OPTICAL ILLUSION.

To the Editor of the Australian Journal of Education.

SIR,—If a person notice the appearance of a coach wheel when in rapid motion, and nothing intervenes, the spokes will appear to radiate, as they really do, in straight lines, but in greater number than is actually the case; but should a fence stand between the spectator and the wheel, the spokes will appear to be curved upward, those at the bottom turned from each other, and those at the top toward each other, and should the motion of the wheel be very rapid, the latter will appear to meet, or even cross each other at their farther extremities.

I do not suppose that this appearance has not been observed before, but I have never seen mention made of it in any work on optics, and being unable to account for it in a satisfactory manner, I shall feel obliged if any of your correspondents can furnish me with the name of any work in which an explanation of the phenomenon is given.

I am, Sir,
Yours respectfully,
29 Albion Street, Sydney, HENRY PARSONS.
19th August, 1868.

To the Editor of the Australian Journal of Education.

SIR,—One of the chief ways to improve in learning, is to criticise not only the words we ourselves use, but also those of others. The English language, even in common use, introduces so many words from the French and Latin in their original form, that persons unacquainted with them in their own regions (if one may use the expression) do not know how to pronounce them when introduced into English soil. Doctors differ too in opinion on the mode of pronouncing these foreigners. Some say we ought to pronounce them as English words, and others that they should be used as nearly as their own nations use or used them. For instance, one hears members of our own profession, as also clergymen and others, pronouncing the French word *route* like the English *rout;* the Latin *extempore* as consisting of only *three* syllables, not sounding the final *e;* the French word *tour* as the English *tower;* &c., &c.

Now, Sir, you would be giving, perhaps, some of your readers, especially the junior ones, guidance in pronouncing such words if you would kindly affix your opinion to this letter. My honest advice to Englishmen unacquainted with the proper pronunciation of such words, is to avoid using them, and be content with the Saxon representatives—"silence, in 'such cases,' is the sign of a wise head."

Leaving you room, Sir, to add your opinion upon this subject,

I remain,
Yours faithfully,
SPES.

ORIGINAL POETRY.

THE BELLS.

Take a flight into the past; bells are ringing loud and fast,
And they tell their dreaded tidings forth with power:
How each bosom heaves with fear as the enemy draws near,
And the dreadful Tocsin's pealing from the tower!
Every striking of the hammer makes a horrid stuttering stammer,
Carrying terror to the listener's aching ears;
As it tells of foes around, hopes and fears and sighs abound,
Which make a scene remembered many years.
And we find in modern days that there still are many ways
How the merry bells may fearful tidings tell;
St. Petersburg's whole population is oft apprised of inundation,
Both by guns and by the solemn tolling bell.
And the bells, with solemn pealing, tell that Death is often stealing
From our very midst, the friends we love the best;
But amidst the desolation, there is still this consolation,
That they're taken from their labours home to rest.

* * * * * *

Hear the handbells play their tunes, in the halls and gay saloons;
What a melody is gushing far and near!
What so melting as their notes, as in waves their music floats,
Wafting harmony and sweetness to the ear?
Hear their light fantastic trilling; how bewitching and how thrilling
Is the changing and commingling of their sounds!
How each ear enraptured listens, how each eye with pleasure glistens,
As the tide of this harmonic sea flows round!

* * * * * *

Then the bells that tell of fire; oh! for energy and fire,
And a pen to picture forth the wild dismay!
To portray without an error, all the horror and the terror
That attend the firebells' voices when they bray!
With what wild and headlong rushing, with what mad impetuous gushing,
Rolls the discordant torrent from the bells—
As they talk with iron tongues, as they shout with brazen lungs,
And agitate the peaceful air with yells!
How they break the dreary charm, how they spread the wild alarm,
And awake the startled sleepers with affright!
Who, in wonder and surprise, wildly stare with eager eyes,
Until at last attracted by the light,
Where the flames are pouring forth, in their fury and their wrath,
And lighting up the place for miles around.
Hear the crackling and the roaring, as resistlessly they're soaring,
Just as if they'd rise completely from the ground!
But their voices now are dying: see the engines how they're plying:
What a sea of human forms surrounds the fire!
Firemen pierce through smoke and blaze, engines work and water plays,
Until at last the conquered flames expire.

* * * * * *

How they rhyme and chime and play on a sunny Christmas day,
While ten million hearts are beating with delight!
Merry Christmas scenes of old, scenes deserving frames of gold,
Are from memory's misty mazes brought to light.
Oft the bells, while thus they ring, touch upon a tender string,
And "old familiar faces" rise to view;
Friends whose memory we prize, friends now lost to mortal eyes;
How we fondly think upon their last adieu.

* * * * * *

Then again at New Year's eve, as each old year takes its leave,
How the merry bells their tuneful voices raise!
First they bid the Old adieu, then they usher in the New
With a hymn of hearty welcome and of praise.

How they rock the lofty tower, how they burst with might and power,
  Simultaneous in an avalanche of sound!
How they reel and roll and ring, what a volume out they fling!
  How it spins in giddy eddies round and round!
How the air vibrates and quivers, over hills and dales and rivers
  With a tremulous emotion; reaching far
Through the stilly breath of night, 'neath the flood of silver light
  Shed by Luna from her pale and pearly car!
How it mounts upon the wind, leaving everything behind,
  Soaring high upon the wings of upper air:
Ringing out with peal and shout, bidding all around, about,
  Give a hearty welcome to the glad New Year!

W. H. Wooster.

NOTICES TO CORRESPONDENTS.

Several communications remain for further consideration.

R. T.—The best English Dictionaries we are acquainted with are the Imperial and the Student's.

J. P. Sharp and J. Memes.—Your communications respecting School Rules are reserved for our next issue.

A. Lansdown.—"Tener" and "Pomifer" are of the masculine gender and nominative case. See the lesson in this issue.

J. Cameron.—We shall always be glad to receive and publish reports of Teachers' Associations. Such reports should be as condensed as possible.

J. Buckley.—Received.

Outsider.—We advise you to consult the Secretary of the Council of Education.

Moruya.—Your paper is under consideration.

Uralla.—With one exception, the passages you quote are too simple for insertion.

Bios.—We have not been able to ascertain if the educational work by Beneke has been translated into English.

Inquirer.—The books you are in quest of may be obtained from the publisher of this Journal. We are informed that Mr. Moore will supply books at the English price to all Teachers who avail themselves of the Council's rule and make application for aid in the purchase of Text Books. Teachers will consequently be able to obtain their books at about one third of the current rates in the colony.

QUESTIONS FOR SOLUTION.

1. Bought a cask of oil for £26 19s.; for what must I sell it that $\frac{2}{9}$ of the selling price may be profit?

S. B.

2. A tradesman finds that by selling goods at 7 per cent. above prime cost he can sell as much in 4 months as he could in $5\frac{1}{2}$ months if he asked 9 per cent., and that his annual purchases amount to £1430. Which will he find the more profitable system, and by how much per year?

Murrygon.

3. I purchased a flock of sheep at the rate of £2 3s. 6d. for 5, and sold them so as to gain as much on the cost of 32 as 3 sheep were sold for. Find the selling price per sheep.

Leo.

4. £3000 stock cost £2500, some being $3\frac{1}{2}$ per cent. at 92, the rest being stock giving $2\frac{3}{4}$ per cent. The dividend amounted to £95 10s. annually. Find the price of the $2\frac{3}{4}$ per cent. stock without the aid of position. Quæro.

5. A shepherd driving a flock of sheep fell into the hands of three companies of soldiers, who compelled him to deliver one half of his flock with half a sheep more to the 1st company; also half the remainder with half a sheep over to the 2nd company; likewise half the rest of the flock with half a sheep over to the 3rd company; which divisions the shepherd performed without killing a sheep, and had 20 left. Find the number in the flock.

E. H.

6. A ship which is known to be sailing due east at 12 miles per hour was observed at noon to be 15 degrees to the east of south, at 1h. 30m. after noon the ship was seen in the south east; determine the distance of the ship when first seen.

TRIGON.

7. Prove the 19th proposition of Euclid Book I., by a direct demonstration.

J. BUCKLEY.

8. Divide a straight line into two parts such that the square on one part shall be equal to three times the square on the other.

M. G. L.

9. Analyse and parse:—

"All the air a solemn stillness holds."

10. Analyse the following passage and parse the words in italics:

When Winter soaks the *fields*, and *female* feet
Too weak to struggle with tenacious clay,
Or ford the rivulets, *are best* at home,
The task of new discoveries *falls* on me.
On such a season, and with *such* a charge,
Once *went* I *forth*, and *found*, *till* then *unknown*,
A *cottage*, *whither* oft we *since repair*.

ANSWERS TO QUESTIONS IN No. 9.

Question 1.—Correct solutions received from Arith, A. Lansdown, D.A., E. Walker, E. Adrain, H. Macintyre, J. Cameron, J. O'R., John Brown, Keira, J. Taylor, Manilan, R. Bousfield, W. J. Huggart, R. C., R. Macinlay, Seaview, Seven Hills, and 267.

The following is the solution by Seaview:—

Here the difference between the times of starting the trains is $1\frac{1}{3}$ hours; and as the 9.45 train travels at the rate of 30 miles an hour, the distance it will have travelled before the starting of the 11.5 train $= 30 \times 1\frac{1}{3} = 40$ miles, at which time the first train will be $450 - 40 = 410$ miles from B.

But as the trains travel *towards* each other, their rate of approximation to each other will be the *sum* of their two rates, *i.e.*, $30 + 60 = 90$ miles. Therefore $410 \div 90 = 4\frac{5}{9}$ hours = the time they will meet after the *second* train started.

Hence the first train will have travelled $40 + (30 \times 4\frac{5}{9}) = 176\frac{2}{3}$ miles from A; and $450 - 176\frac{2}{3} = 273\frac{1}{3}$ miles = distance from B, at which the two trains will meet.

Also the two trains will meet at $11\frac{1}{12}$ hours $+ 4\frac{5}{9} =$ 15 h. 38 min. 20 sec. after the preceding midnight = 3 h. 38 min. 20 sec. p.m.

Question 2.—Correct solutions from Arith, A. Lansdown, D.A., E. Walker, E. Hewison, E. Adrain, H. Macintyre, J. Cameron, J. O'R., John Brown, J. Anderson, Keira, Manilan, R. Bousfield, W. J. Huggart, W. and J. Hullick, R. C., Seaview, Seven Hills, T. C., and 267.

The following is the solution by Marulan:—

6d. earned by one boy per diem.

$$6\text{d.} \times 5 \times 2\tfrac{1}{2} = 6\text{s. }3\text{d.} \left\{ \begin{array}{l} \text{earnings of 5 boys in } 2\tfrac{1}{2} \text{ days, or} \\ \quad ,, \qquad ,, \;\text{2 women in 3 days.} \end{array} \right.$$

$\dfrac{\text{6s. 3d.}}{2 \times 3}$ = 1s. $0\frac{1}{2}$d. = 1 woman's earnings per diem.

1s. $0\frac{1}{2}$d. × 9 = 9s. $4\frac{1}{2}$d = 9 women's earnings per diem.

9s. $4\frac{1}{2}$d. × 11 = £5 3s. $1\frac{1}{2}$d. $\left\{\begin{array}{l}\text{9 women's earnings in 11 days, or} \\ \text{4 men's} \quad ,, \quad\quad 7 \quad ,,\end{array}\right.$

$\dfrac{\text{£5 3s. }1\frac{1}{2}\text{d.}}{4}$ = £1 5s. 9·375d. = 1 man's earnings in 7 days.

As £1 5s. 9·375 : £10 6s. 3d. :: 7 days : 56 days.
56 days = time 1 man takes to earn £10 6s. 3d.

Question 3.—Correct solutions from A. A., D. A., Mudgee, Manilan, R. Bousfield, E. Walker, E. Hewison, H. Macintyre, P. Downey, J. Anderson, J. Cameron, D. A., John Brown, J. and W. Hullick, Keira, 267.

The following is the solution by J. Anderson :—

The plate of a looking-glass is 18 inches by 12, and it is to be framed with a frame of uniform width, whose area is to be equal that of the glass: find the width of the frame.

18 × 12 = 216 inches = area of the glass. Hence 216 × 2 = 432 = area of the frame and glass. If the width of the frame be x, then the length of the frame of the glass will be $18 + 2x$, and the breadth $12 + 2x$; but $(18 + 2x)(12 + 2x)$ = the area of the frame and the glass. Hence $(18+2x)(12+2x) = 432$, whence x is found = 3 inches the required width.

Question 4.—Correct solutions from A. A., E. Walker, E. Hewison, J. Anderson, J. Cameron, J. O'R., John Brown, Keira, D. A., R. Bousfield, Spero, R. C.

The following is the solution by A. A. :—

Let x = original capital.

Then $x + \dfrac{x}{2} - 300 = \dfrac{3x-600}{2}$ = capital at the end of the 1st year.

$\dfrac{3x-600}{2} + \dfrac{3x-600}{4} - 300 = \dfrac{9x-3000}{4}$ = do. do. do. 2nd year.

$\dfrac{9x-3000}{4} + \dfrac{9x-3000}{8} - 300 = \dfrac{27x-11400}{8}$ = do. do. 3rd year.

and $\dfrac{27x-11400}{8} + \dfrac{27x-11400}{16} - 300 = \dfrac{81x-39000}{16}$ = 4th year.

$\therefore\ 4x = \dfrac{81x-39000}{16}$

Clear of fractions, &c., and $x = \dfrac{39{\cdot}000}{17}$ = £2,294 2s. $4\frac{4}{17}$d.

Question 5.—Correct solutions from A. A., Arith., E. Hewison, D. A., E. Walker, J. Taylor, J. Anderson, J. Cameron, J. O'R., J. and W. Hullick, John Brown, Keira, R. Bousfield, Spero, P. Downey, R.C., T.C., and 267.

The following is the solution by Arith. :—

They do $\frac{12}{32}$ or $\frac{3}{8}$ first; $\frac{5}{8}$ remain to be done. B does $7\frac{1}{2}$ yards in 30 days, and would accomplish $\frac{18}{30}$ of $7\frac{1}{2}$ yards in 18 days working by himself; *i.e.*, $\frac{18}{30}$ of $\frac{15}{2} = \frac{18}{4} = 4\frac{1}{2}$ yards; so that this $4\frac{1}{2}$ yards + 8 yards remaining to be done = $\frac{5}{8}$ of the whole. Consequently $\frac{1}{8}$ of this $12\frac{1}{2}$ yards, or $2\frac{1}{2}$ yards × 8 gives 20 yards as the length of the trench.

Question 6.—Correct solutions from A. A., Arith, E. Hewison, J. Anderson, J. Cameron, J. and W. Hullick, John Brown, Keira, P. Downey, R. C., J. O'R.. and 267.

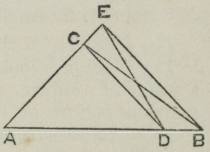
The following is the solution by E. Hewison :—

By Euclid 47, I., the perpendicular $= \sqrt{a^2 - \frac{a^2}{4}} = \frac{a\sqrt{3}}{2}$

Now area of triangle $= \frac{\text{base} \times \text{perp.}}{2} = \frac{a}{2} \times \frac{a\sqrt{3}}{2} = \frac{a^2\sqrt{3}}{4}$

Question 7.—Correct solutions from A. A., J. Anderson, J. Cameron, J. and W. Hullick, John Brown, Keira, P. Downey, R. C., and 267.

The following is the solution by J. Anderson :—



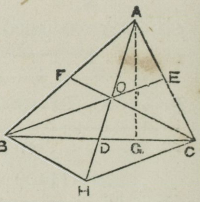
Let ABC be the given triangle, and D the given point in AB : it is required to describe a triangle equal to ABC upon the base AD and having the angle A common. Synthesis. Join DC (I., post. 1) from B draw the line BE parallel to DC (I., 31) and produce AC to meet BE (ax. 12 and I. post. 2) join DE, ADE to the triangle required.

Because the triangles CDE, CDB are upon the same base CD, and between the same parallels CD, BE they are equal (I., 35). To each of these equals add the triangle ACD, and the wholes ABC, ADE are equal; wherefore upon the base AD a triangle ADE has been described equal to the triangle ABC, and having the angle A common.

Question 8.—An excellent solution from A.A., who forgot to double the triangle in the last stage of proof; in every other respect the result agrees with Keira. J. Anderson agrees nearly with Keira and A.A.; he makes the area 119·216.

Two good solutions from J. Buckley and 267, who do not state the area as required by the question.

The following is the solution by Keira :—



It can be shown (within the limits of the 1st Book Euclid) that if lines be drawn from the angles of a triangle bisecting the opposite sides, they intersect each other at a point which is two-thirds of their length from the angular points from which they are drawn.

Let ABC be the required triangle, and AD, CF, BE (measuring respectively 12, 15, and 18) the given lines from the angles drawn to the bisections of the opposite sides and intersecting each other in O, produce OD, making DH equal to OD ; and join BH and CH. Then BOCH is a parallelogram. Hence the construction is plain from this analysis.

From the data, BO = 12, CO = 10, and HO = 8. Now in the paralellogram BOCH, $OH^2 + BC^2 = 2(12^2 + 10^2)$ (Thomson's Euclid II.)

$$= 8^2 + BC^2 = 2(12^2 + 10^2)\text{, from this we get —}$$

$$\begin{array}{rl} & BC^2 = 424 \\ \text{In like manner} & AB^2 = 316 \\ \text{,, \quad ,,} & AC^2 = 184 \end{array}\Bigg\}\text{ The squares of the sides of the triangle.}$$

Let fall the perpendicular AG, then by II., 13, $AC^2 + 2CB.BG = BC^2 + AB^2$ Substituting the numerals in this equation, $184 + 2BG\sqrt{424} = 424 + 316$.

Collecting, transposing, and extracting $\sqrt{\ }$, we get $BG^2 = \frac{309136}{1696}$

$$\text{Again, (1·47)} \left\{316 - \frac{309136}{1696}\right\} = \frac{226800}{1696} \text{ the square of the perpendicular.}$$

$$\text{Then} \left\{\frac{226800}{1696} \times 424\right\} = 56700\text{, twice the square of the area.}$$

$$\text{Therefore } \frac{\sqrt{56700}}{2} = \text{the area.}$$

$$= \frac{238{\cdot}11}{2} = \text{the area.}$$

$$= 119{\cdot}05 = \text{the area of the triangle.}$$

Question 9.—Answered by Arith, J. Anderson, T. C., G. Hill, W. J. Huggart, J. Hullick, A. Lobban, Marulan, Mudgee, J. O'R., and D. Treehy.

The sentence given for analysis is illogical, and badly constructed. We shall probably advert to the subject at length in a future issue. *Arith's* answer is subjoined :—

(1.) " A lark having built her nest in a field of corn,"—*An absolute phrase, or phrase syntactically independent.*
(2.) " It grew ripe,"—*Principal clause to* (3).
(3.) " Before her young-ones were able to fly."—*Adverbial clause of time to* (2), *modifying* " *grew ripe.*"
(1) Appears to be incapable of detailed analysis.
(2.) " It," simple subject ; " grew ripe," simple predicate ; or " grew," simple predicate ; " ripe," extension of predicate (manner.)
(3.) " Before," connective ; " her young," enlargement of simple subject ; " ones," simple subject : " were able to fly," simple predicate.
[" Before " may be considered an extension of the predicate (*time*) to " grew ripe." EDS.]

PARSING.

A	The indefinite article, prefixed to " lark."
lark	Common noun, third pers., sing., fem., nom. absolute.
having . . .	Present part. of the verb to have.
built	Past part. of the verb to build, governed by " having."
her	Pers. pron., third pers. sing., fem., agreeing with its noun " lark," and pos. case gov. by " nest."
nest	Noun com., third pers., sing., neut., obj. case, governed by " having built."
in	Prep., shewing the relation between " nest " and " field," and governing " field " in the obj. case.
a	Indef. article, prefixed to " field."
field	Noun com., third pers., sing., neut., obj., governed by " in."
of	Prep., showing relation between " field " and " corn," and governing " corn " in the obj. case.
corn	Noun com., third pers., sing., neut., obj., gov. by " of."
it	Pers. pronoun, third pers., sing., neut., agreeing with its noun " corn " and nom. to " grew."
grew	Intrans. verb, third pers., sing., past., indic., agreeing with its nom. " it."
ripe	Adverb, modifying " grew."
before . . .	Conj. adverb. (?) Prep. gov. " time " understood (?).
her	Pers. pron., third pers., sing., fem., poss., gov. by " ones."
young . . .	Adj., qualifying " ones,"
ones	Noun, com., third pers., plural, nom. to " were."
were	Intrans. verb, third pers., plural, past, indic., agreeing with its nom. " ones "
able	Adj., qualifying " ones."
to fly . . .	Intrans. verb, infinitive mood, gov. by adj. " able."

Question 10.—Answered by Arith, J. Anderson, J. Cameron, W. J. Huggart, A. Lobban, Marulan, Mudgee, J. O'R., Seaview, and Seven Hills.

We give Arith's solution as being on the whole the best and most suited for printing. If our correspondents will notice the analysis of the second clause (*b*) they will observe that a different view is taken from that held by the majority of persons who have furnished replies.

A. "There is a time in every man's education," principal clause to *b.*

b. "When he arrives at the conviction" adj. to "time" in *A.*

c. "That envy is ignorance;" substantival to *b* in apposition with "conviction."

d. "That imitation is suicide;" substantival to *b* in apposition with "conviction."

e. "That he must take himself for better, for worse, as is his portion;" same as *c* and *d.*

f. "Though the wide universe is full of good" adverbial to *g* (concession).

g. "That no kernel of nourishing corn can come to him but through his toil bestowed on that plot of ground;" substantival to *b* in apposition to "conviction."

h. "Which is given to him to till" adj. to *g* qualifying "plot."

Detailed Analysis:—

A. "a," enlargement of simp. subj.; "time," simp. subj.; "is," simp. pred.; "there," extension (place); "in every man's education," extension (place.) [*There* is an expletive.—EDS.]

b. "When," extension (time); "he," simp. subj.; "arrives at," simp. pred.; "the," attributive; "conviction," object.

c. "That," connective; "envy," simp. subj.; "is," simp. pred.; "ignorance," object, or in place of object.

d. "That," connec.; "imitation," simp. subj.; "is," simp. pred.; "suicide," object, or in place of object; or what is sometimes called the complement.

e. "That," connec.; "he," simp. subj.; "must take," simp. pred.; "himself," object; "for better, for worse, as his portion," extension (manner.)

f. "Though," connec.; "the wide," enlargement; "universe," simp. subj.; "is full of," simp. pred.; "good," object.

g. "That," connec.; "no, of nourishing corn," enlargement; "kernel," simp. subj.; "can come," simp. pred.; "to him," extension (ind. obj.); "but through his toil bestowed on that plot of ground," extension (manner.) We object to the *Indirect Object.*—EDS.

h. "Which," simp. subj.; "is given," simp. pred.; "to him," extension (dative object); "to till," extension (purpose.)

Question 11.—Answered by Arith, J. Anderson, Doctu, Keira, Marulan, Rose McKinlay, Mudgee, and J. O'R.

The passage does not appear to have been well understood, and the parsing is not in all cases fully correct. An error occurs in the fifth line of the passage, the word *falls* having been transposed by the printer. The following is Doctu's answer which agrees most nearly with our own views.

Abide . . .	Intrans. verb, imp. mood., second pers., plural, agreeing with nom. "ye," understood.
united . . .	Perf. participle, dependent upon "being" understood.
as	Adverb, qualifying "abides" understood.
soul	Noun com., third, sing., neuter, nom. to "abides" understood.
for	Prep., gov. "ever."
ever	Noun, sing., neuter, objective, governed by "for." (or)
forever . . .	Adv. modifying "happy."
him	Pers. pron., third, sing., mas., objec., gov. by "disobeys."
breaks . . .	Trans. verb, third, sing., pres., indic., agreeing with nom. "he" understood
day	Noun com., third, sing., neuter, obj., gov. by "on" understood.
falls	Intrans. verb, third, sing., pres., indic., agreeing with nom. "he" understood.

2. *Viceregent*, ruling in place of another. *Soul*, the spirit as distinguished from the body. *Utter* (outer), entire, total, *i.e.*, shut out from the light of heaven.

3. A comma after "disobeys."

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PROGRAMME OF LESSONS for the THIRD CLASS, during the Second Quarter of Enrolment, for the Quarter ending of 1868.
constructed to accord with the provisions of the STANDARD OF PROFICIENCY.

TIME.	READING.	WRITING.	ARITHMETIC.	GRAMMAR.	GEOGRAPHY.	OBJECT LESSONS.	DRAWING.	ANALYSIS.	MENTAL ARITHMETIC.
1st week.	Third Book, I.N.S.B., pp. 9 to 12	In Copy Books—	Notation, Multiplication, and Division, as— $\frac{6271074003 \times (3019-97)}{301796 - 8754}$	Noun—kind. Number and person.	New South Wales History. Boundaries and extent.	Snake.	Fowles' Series, Drawing Book No. 2. 3rd page 1st fig.	Simple Sentence definitions.	$\sqrt{\frac{\{(7^2 \times 2)+2\{ \div 4}{5}}$
2nd ,,	,, 12 ,, 16	Large, Round, and	Avoirdupois Weight. (Addition.)	,,	Inlets.	Coal.	2nd ,, ,,	Simple Subject.	,,
3rd ,,	,, 17 ,, 19	Small Hands,	Subtraction— Quotient = 40706 Divisor = 3108 Rem. = 87. Find dividend.	Gender.	Capes. Surface.	Ivory.	3rd ,, ,,	Simple Predicate.	In £7 10s. 0d., how many sixpences and how many fourpences, &c.?
4th ,,	,, 20 ,, 23	as	Troy Weight.—(Addition.)	Nominative case.	Natural Divisions.	Kangaroo.	4th ,, ,,	Enlargement of Subject by Adjectives.	Price of scores.
5th ,,	,, 23 ,, 25		,, Subtraction. Avoirdupois and Troy Weights.	Objective case.	Great Dividing Range.	Salt.	5th ,, ,,	,,	,, In £3 3s. 0d., how many florins, &c.?
6th ,,	,, 25 ,, 27	MITTAGONG	750863 ÷ 5½, &c.	Possessive case	,,	Rice.	6th ,, ,,	,, By Nouns in Possessive Case.	Scores. ,,
7th ,,	,, 28 ,, 30	RANGE,	Long Measure —(Addition.) Find product of two numbers— Greater = 1147015 & diff. = 57913.	Verb. Number and person.	Eastern Spurs.	Shark.	7th ,, ,,	,, By Adjectives and Nouns in Possessive Case.	Scores.
8th ,,	,, 30 ,, 33		,, Subtraction.	Transitive.	Western Spurs Coast Ranges.	Iron.	8th ,, ,,	,, By Nouns in apposition.	Price of gross. In 30,854 florins, how many threepences, &c.?
9th ,,	,, 33 ,, 35	highest summit	,, 576083 ÷ 7¼, 30¼, &c.	Intransitive.	Interior ,,	Coral.	9th ,, ,,	,, By Adjectives, Nouns in Possessive Case, and Nouns in apposition.	Gross. 1 gross, at 4¾d. per article, how much less than 3 guineas, &c., &c.?
10th ,,	,, 35 ,, 38	JELLORE.	Square Measure—(Addition.) $(7108)^3 \div (3057)^2$	Tense.	Isolated Peaks. Drainage. Different slopes.	Wool.	10th ,, ,,	,, By Prepositional Phrases.	and how many sixpences less, or half-crowns?
11th ,,	,, 38 ,, 41		,,	Mood.	Rivers of E. slope.	Lion.	4th page, 1st fig.	,,	
12th ,,	,, 41 ,, 43		Subtraction. Find product of two numbers— 1st = 31057, 2nd = 3 times 1st.	,,	Rivers of W. slope.	Gold.	2nd ,,	,,	100 articles, at per article.
13th ,,	Recapitulation.		Recapitulation.	Recapitulation	Recapitulation	Paper.	3rd ,,	Participial Phrases and Analysis of Simple Sentence.	N.B.—The operations indicated in 1st week's work to be continued every week during Quarter.

THE

Australian Journal of Education.

Vol. I. MONDAY, NOVEMBER 2, 1868. No. 11.

THE SOCIAL POSITION OF TEACHERS.

In a previous article on this subject, we took occasion to point out some of the causes which have tended to lower the estimation in which the teaching profession is held by the general public. In resuming our discussion of the question, we desire to advert to a cause less common, but more injurious, than any before mentioned. The practice of writing for newspapers prevails, we are informed, to a considerable extent among teachers, and produces much dissatisfaction, heartburning, and irritation among the people who help to support their schools. It is within our knowledge that the usefulness of several teachers is greatly lessened, the prosperity of their schools hindered, their influence for good restricted, and the profession of which they are members disliked, because in their communications to newspapers they have given offence to some of their neighbours.

It is necessary, however, to distinguish between what may be a very useful and instructive exercise of a teacher's knowledge and intelligence, and the mere indulgence of the vanity of seeing himself in print. If a teacher possesses information which he believes to be useful to those around him, he is right to impart it through so widely circulating a medium as the local journal; and instead of blaming, we should be the first to applaud him for his public spirit. So long as he retains his position as an *instructor* no one can reasonably find fault with his proceedings. Some, indeed, may smile at his assumption of superior wisdom; but most men have sense enough to discriminate between a display of self-conceit and an honest desire to serve them, and they seldom fail to give the reward due in either case. A teacher who attempts to instruct mankind must expect to be met by the same rebuffs which others constantly experience in performing the same part, and he must calculate upon seeing his statements disputed, and his qualifications doubted by those whom he endeavours to enlighten. But very rarely will he find that he becomes an object of dislike for such a cause, and even then the feeling may generally be traced to some injudicious step on his part.

Very different, however, is the feeling with which the man is regarded who retails all the local gossip of the neighbourhood. "Our own correspondent," in a small community, is frequently hated with a quiet depth of hatred of which probably he is wholly unconscious until circumstances allow the feeling to be fully revealed, or it manifests itself in injuries the motive and the agent of which he is alike unable to trace. Supposing that he wishes to report the simple truth and that, to his own mind, he succeeds in this aim, he will still give offence to those who take a different view and believe their own view to be right. However impartially he may strive to state facts, he will always be exposed to the suspicion of being influenced by enmity towards some and prejudiced regard for others. He cannot escape the misapprehension of the undiscerning nor the misrepresentation of the unscrupulous. In either case, the teacher's work and office must suffer.

It is difficult to conceive a teacher deliberately misstating facts or so colouring a narrative as to produce the effect of pure misrepresentation. Yet, considering how seldom teachers can be present at the scenes of the transactions they report, and how dependent they must necessarily be upon hearsay for much of the local information they gather, it is not to be wondered at if they sometimes commit errors which have all the irritating effects of falsehood. The fact that their divergence from truth was unintentional does not save them from the odium which attaches to the very fact of having touched the subject at all. Nor does it exempt them from imputations upon the integrity of their own motives and conduct.

Still more to be deprecated is the conduct of a teacher who becomes a political partisan, and abuses his knowledge and position by making them subservient to the rancour of party animosities. Every intelligent man, especially in a country like New South Wales, ought to be a politician. His share of responsibility in the government of the country imposes upon him the duty of bringing intelligent criticism to bear upon the conduct of the government, and he does not rightly discharge the functions of citizenship unless he takes the trouble to form a rational opinion on this subject, and endeavours to give proper effect to his views. We do not therefore object to a teacher's dealing with political questions. What we really deem injurious to teachers individually and to the profession, is taking up such questions in an evil spirit, attempting not to instruct those who are comparatively ignorant, but to wound and vilify those holding different opinions. If we should unhappily differ in political opinion from any set of men we surely are not justified in displaying towards them the fanatical hatred of the Jacobins or the fierce hostility of the socialist republican. Let us rather differ as educated gentlemen, conscious that no class of persons has a monopoly of truth, and that courtesy to an opponent in matters of opinion and fair construction of his motives is as necessary for the maintenance of that character as it was in the days of chivalry, when the true knight deemed himself dishonoured by imputations upon the fame of his antagonist in the *melée.*

We have been informed that teachers have been known, from motives of revenge, to write letters in different journals, under various signatures, attacking the character of public men, and attributing to them motives and prejudices of a disgraceful nature. We are unwilling to believe these statements without stronger proof than has yet been furnished. But this important fact is indisputable—that the estimate of the teaching profession in the minds of many very influential men has been lowered even by the suspicion that teachers could be guilty of such practices.

The great body of teachers who read our journal will, we feel assured, think with us that if a teacher write at all for publication in newspapers, he should write as an instructor, but that he will best consult his own interests and those of the profession by abstaining altogether from such exercise of his talents, unless upon themes of general as distinguished from local interest.

ANALYSIS OF SENTENCES.

(*Resumed from No.* 10.)

THE COMPOUND SENTENCE CONCLUDED.

128. In the last issue we sought to exhibit some of the forms under which the Compound Sentence presents itself, the object being to shew that, while there was an apparent difference between them, a common character pervaded all.

129. We now turn to a class of sentences, into which the exclamatory element is largely introduced, and where the difficulties of the analyst are increased by the circumstance, that these phrases do not form themselves into full clauses.

The following are examples :—

a. "*Not yet enslaved! not wholly vile!*
Oh Albion! Oh my Mother isle!
Thy valleys, fair as Eden's bowers,
Glitter green with sunny showers,
Thy grassy uplands' gentle swells
  Echo to the bleat of flocks ;
Those grassy hills, those glittering dells,
  Proudly ramparted with rocks ;
And Ocean mid his uproar wild,
Speaks safety to his Island Child."

b. "Immortal! Ages past, yet nothing gone!
Morn without eve! A race without a goal!
Unshortened by progression infinite!
Futurity for ever future! Life beginning
Still, where computation ends!
'Tis the description of a Deity!
'Tis the description of the meanest slave."

c. "The Sons of Atreus, starting from their thrones,
Dashed to the ground their sceptres, nor withheld
The bursting tears that 'dewed their warrior cheeks,
When thus, exclaiming, spoke the elder king,
'Oh, heavy fatal doom to disobey!
Oh, heavy fatal doom! My child to slay!
My child! My child! The idol treasure of my house!
Must I, her parent, all bedabbled o'er
With streaming rivers of her virgin gore,
Stand by the altar with polluted hands?'"

There are three ways in which the above difficulty may be met.

I. By expanding these phrases into full clauses, supplying such subjects or predicates as are manifestly understood.

II. By treating them as enlargements of the Subject.

III. By treating them as expansions of the Predicate, where the sense obviously suggests this.

The first portion of example *a*, and the whole of example *b*, will fall under the first scheme.

The last italicised lines of example *a*, will fall under the second plan.

The agonized utterances of the king, on hearing the demand of the oracle, will be capable of treatment under both the first and third modes. There can be no question that these should, where possible, be regarded as abbreviated sentences or clauses. At the same time, it is to be observed, that many of these utterances, as, "To your tents, oh, Israel!" had a peculiar significance, and a force and dignity which a more formal mandate would have failed adequately to render.

130. In the next variety the arrangement takes the impassioned interrogative form, the rule for the analysis of this species having been given in an early number. In the following passage it will be seen that the subjects in the direct clauses are rarely expressed, though the sense points to the first person plural.

> "Why dwell on the wonders of the 'Paradise Lost'? Why trace the flight of this daring genius through the regions of death, chaos, and the elder night? Why pursue that sublime track through the terrible abyss, whose soil was burning marle, whose roof was one vast concave of hottest flame, and whose oceans were floods of tossing fire? Why gaze with astonishment on the labours of the infernal hosts, or listen to the sound of angelic harmony, of harp, lute, and dulcimer, and behold, rising from the flaming deep, like a gorgeous exhalation, the palace of hell's potentate, the 'Star Gemmed Pandemonium'? Why crushed under the weight of so much misery and splendour, bathe our wearied spirits in Elysium, and wander with heavenly guests through the fragrant groves and Amaranthine

> bowers of Paradise, listening to the song of earliest birds, and the sound of lulling waters, quaffing immortal draughts from sacred fountains, or reposing with the loveliest pair that Earth has ever borne on its bosom, beneath the embowering branches of the tree of life? Why satiated with this verdurous beauty, this green repose, re-ascend with the adventurous bard, and view the celestial hierarchies armed in panoply of adamant and gold, and behold engaged in angelic sport the youth of heaven? Why call up these visions, seeing that all this, and more than this, has been so often reiterated, as to have become the very cant of criticism? And yet, no less eloquently than truthfully has it been said, that to Milton, and to Milton alone, belonged the secrets of the great deep, the beach of sulphur, the ocean of fire, the palaces of the fallen dominions glimmering through the everlasting shade, the silent wilderness of shadow, verdure, and fragrance, where armed angels kept watch over the sleep of the first lovers, the portico of diamond, the sea of jasper, the sapphire pavement empurpled with celestial roses, and the illimitable ranks of cherubim and seraphim, blazing with adamant, and resplendent with gold."

These interrogations must be dealt with as separate clauses of one sentence, the Predicate being understood in the emphatic form, as, Why do we dwell? Why do we trace? Why do we pursue? Why do we gaze? Why, being crushed, &c., do we bathe, &c.?

131. In the next example, the structure is perhaps more complex; but the peculiar feature is that the subjects in the two opening, direct statements, are regular Substantival clauses; and consequently, as the Subject is either a noun in the nominative case, or is something equivalent to this, these clauses are nominatives to the verbs, or verbal expressions, forming the predicates.

> "That Columbus was the first to discover America may fairly be questioned; but that the name of a navigator, who was not its discoverer, should be permanently affixed to it, is a complaint, which has often been preferred by those who love justice, as well as by those, who, caring less than the others for the interests of truth and honour, nevertheless desire to have their names passed down to future generations as the single-minded of their age, and be revered as the champions of the oppressed, and of the injured."

132. As closely allied with this phase of the Subject, we may, in descending from clauses to phrases, invite the attention of our readers to the poetic fragment which closes the Sequel Book, No. 2, one which explains a remark made by one of the Inspec-

tors, that he rarely went beyond the Elementary Reading Books to find a grammatical exercise for the pupils.

"Let thy repentance be without delay ;
If thou defer it till another day,
Thou must repent for a day more of sin,
While a day less remains to do it in ;
To be religious, something it will cost,
Some riches, honors, pleasures will be lost ;
But if thou countest the sum total o'er,
Not to be so will cost a great deal more."

Here we have some noteworthy features in the grammar, one of the subjects being doubled, though the forms vary.

Subjects.	*Predicates.*
(Thou)	Let to be.
It To be religious	Will cost.
Day less	Remains.
Not to be so	Will cost.

Here it should be remarked that it is not said to be a *day* that remains, but some period of time *less by a day ;* and the real subject may mean several months or even years.

133. The next example belongs to a class of sentences which are remarkable for a species of parallelism in their arrangement ; but this has the additional peculiarity of being, so to speak, double, when analysed.

"Think not, when all your scanty stores afford,
Is spread at once upon the sparing board ;
Think not, when worn, the homely robe appears,
While on the roof the howling tempest bears,
What farther shall this feeble life sustain,
And what shall clothe these shivering limbs again ;
Say, does not life its nourishment exceed,
And the fair body its investing weed ?"

This passage will be found analysed in detail upon the subjoined form ; but the first operation is manifestly to disentangle it mentally, or otherwise, in some such mode as the following :—

"Think not, when all your scanty stores afford,
Is spread at once upon the sparing board,
What further shall this feeble life sustain ;
Say, does not life its nourishment exceed ?"

"Think not, when worn, the homely robe appears,
While on the roof the howling tempest bears,
What shall clothe these shivering limbs again ;
Say, (does not) the fair body (exceed) its investing weed ?"

Without this precaution errors are likely to arise in determining the relation of the clauses to each other.

Distinguishing Letters.	CLAUSES.	Kind of Clauses, and their Mutual Relations.	Connectives.	SUBJECT.		PREDICATE.					Remarks.
							Completion.				
				Enlargement of Subject.	Simple Subject.	Simple Predicate.	Object.	Attribute.	Extension of Predicate.	Kind of Extension.	
A.	Think not	Principal Clause to *b. c*, and *g*: co-ord. to *D*, *I*, and *K*: abbreviated in subject.	...	...	(thou)	think not	clause *g*.	...	...	...	
b.	When all is spread at once upon the sparing board	Adverbial Clause to *A*: co-ord. to *e* and *f*.	...	...	all	is spread	...	...	at once : when : upon the sparing board	Adjunct of time. Adjunct of place.	
c.	Your scanty stores afford ;	Adjectival Clause to "all": (clause *b*).	...	your scanty	stores	afford	(which) understood	so	...	...	
D.	Think not,	Principal Clause to *e*, *f*, and *h*: co-ord. to *A*, *I*, and *K*: abbreviated in subject.	...	...	(thou)	think not	clause *h*.	...	...	...	
e.	When worn, the homely robe appears,	Adverbial Clause to *D*: co-ord. to *b* and *f*.	...	the homely	robe	appears (to be) worn	...	...	when	Adjunct of time.	
f.	While on the roof the howling tempest bears,	Adverbial Clause to *D*: co-ord. to *b* and *e*.	...	the howling	tempest	bears	...	...	while on the roof	Adjunct of time. Adjunct of place.	
g.	What farther shall this feeble life sustain,	Substantival Clause: object to *A*: co-ord to *h*.	...	what	(thing) understood	shall sustain	life	this feeble	farther	Adjunct of time.	
h.	And what shall clothe these shivering limbs again ;	Substantival Clause: object to *D*: co-ord. to *g*.	and	what	(raiment) understood	shall clothe	limbs	these shivering	again	Adjunct of time.	
I.	Say,	Principal Clause to *j*: co-ord. to *K*, *D*, and *A*: abbreviated in subject.	...	...	(thou)	say	clause *j*.	...	...	...	
j.	Does not life its nourishment exceed,	Substantival Clause: object to *I*: co-ord. to *l*.	...	...	life	(does not exceed?)	nourishment	its	..	Adjunct of effect.	
K.	And (say) understood	Principal Clause to *l*: co-ord. to *I*, *A*, and *D*: abbreviated in subject.	and	...	(thou)	say	clause *l*.	...	...	...	
l.	(Does not) the fair body (exceed) its investing weed?	Substantival Clause: abbreviated: object to *K*, understood: co-ord. to *j*.	...	the fair	body	(does not exceed?)	weed	its investing	...	...	

134. It is hardly needful to remark that, where Subordinate Clauses exist in a Compound Sentence the Adjectival Clauses may predominate, or they may be the sole representatives of the indirect element in the sentence. So with the Substantival, so with the Adverbial; and again all may be present together, without impairing the style, or changing the denomination of the sentence.

135. We cannot do better than close our remarks by exhibiting concisely, specimens of the four varieties of sentence which have occupied our attention from the outset.

Simple Sentence :—

"No more beneath the evening beam,
Fair Tweed reflects its purple gleam."—*Sir W. Scott.*

Combined Sentence :—

"Must we but weep o'er scenes more blest;
Must we but weep; our fathers bled;
Earth! render back from out thy breast
A remnant of our Spartan dead;
Of the three hundred, grant but three,
To make a new Thermopylæ."—*Lord Byron.*

Complex Sentence (with the indirect element large) :—

"Behold! where Dryden's less presumptuous car,
Wide o'er the fields of glory bear,
Two coursers of etherial race,
With necks in thunder clothed, and long resounding pace."
Gray.

Compound Sentence (with indirect element small) :—

"The voice had ceased, the vision fled,
But still I gasped and reeled with dread;
And ever, when the dream of night
Reveals that phantom to my sight,
Cold sweat drops gather on my limbs;
My ears throb hot; my eyeballs start;
My brain with horrid tumult swims;
Wild is the tempest of my heart;
And my thick and struggling breath
Imitates the toil of Death."—*Coleridge.*

A few exercises for analysis will be found subjoined.

EXERCISES.

"Often when the Sun has set beneath the opaque terrestrial sphere, and when the deep nocturnal shadow of the Earth is stretched before our gaze towards the Stars, a mild benignant face looks down upon us from the darkness, and turns the gloom into silvery dream like light; that face so steady in its watchfulness, so punctual in its visits to the night-veiled sky, is the radiant, ever-welcome Moon."

"No matter with what solemnities the slave may have been devoted upon the altar of slavery, the moment he touches the sacred soil of Britain, the altar and the god sink together into the dust; and he stands redeemed, regenerated, disenthralled, by the irresistible genius of universal emancipation.

"The reverence due to writings, that have long existed, arises not from any credulous confidence in the superior wisdom of past ages, nor from gloomy persuasion of the degeneracy of mankind; but is the result of acknowledged, and of indubitable positions: that, what has been longest known, has been most considered; and what has been most considered, is best understood."

"Where is the German's Fatherland?
Is't Prussia, Swabia; is't the Strand,
Where flows the Rhine, where grows the vine;
Is't where the gull skims Baltic's brine!
No; yet more great, and far more grand
Must be the German's Fatherland!

"Yesterday the sullen year
Saw the snowy whirlwind fly;
Mute was the music of the air;
The herd stood drooping by;
Their raptures now, that wildly flow,
No yesterday, nor morrow know;
'Tis man alone, that joy descries
With forward and reverted eyes."

"See the wretch, who long has tossed
On the thorny bed of pain,
At length repair his vigor lost,
And breathe and walk again;
The meanest flowret of the vale,
The humblest note, that swell the gale,
The common sun, the air, the skies,
To him are opening paradise."

"Deep into that darkness peering, long I stood there wondering, fearing,
Doubting, dreaming dreams no mortals ever dared to dream before;
But the silence was unbroken; and the stillness gave no token;
And the only word there spoken, was the whispered word 'Lenore';
This I whispered, and an echo murmured back the word Lenore;
Merely this, and nothing more."

"Is then the German's Fatherland
Westphalia? Pomerania? Stand
Where Zurich's waveless water sleeps,
Where Weser winds, where Danube sweeps;
Hast found it now? Not yet! Demand
Elsewhere the German's Fatherland."

"At the feet of Minnehaha
Hiawatha laid his burden;
Threw the red deer from his shoulders;
And the maiden looked up at him,
Looked up from her mat of rushes,
Said, with gentle look and accent,
You are welcome, Hiawatha."

NOTE.—*We have purposely omitted the punctuation of the last three exercises, as in this form they are particularly deserving of solution. The second will probably be parsed in a later issue in the form suitable for an Examination Paper.*

"Hebe to the chariot rolled
The brazen wheels and joined them to the smooth
Steel axle twice four spokes divided each
Shot from the centre to the verge the verge
Was gold by felloes of eternal brass
Guarded a dazzling show the shining naves
Were silver silver cords and cords of gold
The seat upbore two crescents blazed in front
The pole was argent all to which she bound
The golden yoke with its appendant charge
Inserted braces straps and bands of gold."

"Him sleeping armed before his tent they found
Amidst his sleeping followers with their shields
Beneath their heads they lay and at the side
Of each stood planted in the soil his spear
On its inverted end whose polished heads
All glittered like Jove's lightning from afar."

"Here and there were seen
The patriot bands that from his guilty throne
The despot tore unshackled nations made
The princes respect the peoples' laws drove back
The wave of proud invasion and rebuked
The frantic fury of the multitude rebelled
And fought and fell for liberty."

DR. BADHAM AND THE COUNCIL OF EDUCATION.

THE distinguished scholar who now fills the chair of classics in the Sydney University is said to possess a European reputation for the extent and accuracy of his learning. Dr. Badham's appointment to that position was accordingly regarded with much satisfaction by all who were acquainted with his high repute; the prosperity of the university was held to have been secured by that step; and the colony was considered to have cause for congratulation when its principal educational institution was to receive the benefit of his instruction. Not only was colonial scholarship to be vastly improved, but the number of students who were to throng our academic halls was also to be greatly increased.

The public journals have informed us that the Professor was lately invited to deliver an address at the opening of the Public School at Sutton Forest. It may be interesting to the humbler members of the profession to learn what of instruction or encouragement to them in their vocation may be gathered from the words that then fell from the Chief Teacher of the colony.

A brief explanation is necessary to enable them to judge accurately of the circumstances. The Sutton Forest Public School was established under the auspices of the Council of Education. One of the Council's inspectors inquired into and reported upon the application; the Council's architect prepared the plans; a person paid by the Council superintended the erection of the buildings; and a large proportion of the cost was defrayed from the funds at the Council's disposal. The supply of books and apparatus—even to the school bell—was granted by the Council, by which body also the teachers were appointed and are now paid. Dr. Badham might even be regarded as one of the Council's officers, seeing that he accepted the Council's invitation to act as one of the Examiners.

The report of Dr. Badham's discourse on the occasion is vague and confused, but we gather from it that the learned professor attacked the Council of Education, the regulations, the books, and in short the whole system. Assuming, for the sake of argument, that Dr. Badham was the right man in the right place on that occasion, his statements deserve some examination in detail.

In the first place, Dr. Badham remarked, with reference to the members of the Council, that "with the exception of a professor of the University and another gentleman, he would like to know what they had done for education, or when they were identified with education before to entitle them to seats in a council which controlled public education." The three gentlemen of whose qualifications the Professor confesses himself to be ignorant are, we believe, members of the Senate of the University and Trustees of the Sydney Grammar School. They may consequently be supposed to feel some interest in the progress of education in the colony. This, however, is a matter of little importance, for, in truth, the Professor's inquiry discloses the fact that he utterly misconceives the functions of a public body like the Council. It is not the Council's business to *teach*, but to *administer*. Its duties are to carry out the provisions of the law as directors, not as executants. These matters, it is evident, do not require a large amount of curious learning; habits of business, sound judgment, and a high sense of honor, are far more important qualifications. Taking this standard, it may fairly be questioned whether the colony or education would gain by the substitution of five Dr. Badhams for the present members of the Council. The Professor's sneer at the Council and covert compliment to himself are worthy of notice. "The members of the Council may be well qualified in every respect," he remarked, "and perhaps it was ignorance and inexperience of the colony that led him to the opposite opinion." We cordially endorse this view, and fully believe that the Professor's jocular admission of ignorance was exactly correct without any joke at all.

Unfortunately the report of Dr. Badham's address is so meagre that his criticism of the school books and of the regulations is confined to simple condemnation. This, while it is a comfortable arrangement for the critic, gives no opportunity for those differing from him to show how far he is mistaken.

The report is more explicit on the subject of inspectors. Dr. Badham knows nothing of the colonial inspectors, but cannot resist a sneer at their qualifications. Those of our readers who have chanced to come in contact with Canon Mosely, Dr. Morell, Dr. Temple, or twenty other English inspectors, will doubtless estimate Dr. Badham's judgment at its true value, when they are informed that the learned Professor stated that "he had some knowledge of what inspectors of public schools were in England, and often exclaimed "from inspectors good heaven defend me; for of all the arrogant, talkative, and whimsical mortals it has been his misfortune to meet, those inspectors were the worst."

Tested solely by their intrinsic merits, these portions of Dr. Badham's lecture are not creditable to his judgment; but when viewed in connection with the circumstances, they evidence the want of not only the most ordinary prudence, but also of right feeling. When a man accepts an honorary office under any corporate body, it is presumed that he entertains a reasonable amount of respect for the members, that he approves generally of the policy of their administration, and that he sympathises with the objects they desire to accomplish. He is bound by his honor, in our opinion, to assist them as far as possible, or to relinquish the connection. A paid servant may be pardoned for vilifying his employer; the bargain between them does not imply mutual respect as one of the conditions. Not so with the volunteer. In his case, respect for the employer is the fundamental condition and motive of the service, and the man who enters into such an engagement and then speaks disparagingly of the persons he professes to serve is—what we will not attempt to characterize.

We may fairly retort upon Dr. Badham his enquiry and ask "what has he done for education in the colony?" Hitherto he has been chiefly known to the public by his extremely injudicious speeches. His public appearances indeed are regarded with unfeigned alarm by the friends of the university, who anticipate nothing but damage to the institution from his singular lack of discretion. In this, his last deliverance, Dr. Badham has apparently endeavoured to inculcate upon teachers disrespect for the Council, discontent with the regulations, dissatisfaction with the class books, and distrust of the inspectors. In addition to these benefits he has offered—as we learn from a subsequent issue of the *Sydney Morning Herald*—to revise the Latin exercises of the colony once a quarter, provided they are not too numerous.

THE PRESS ON THE REMUNERATION OF TEACHERS.

(From the Goulburn Herald and Chronicle.)

We are aware that the able and energetic men who compose the Council of Education sincerely desire to improve the status of our School Teachers and to raise teaching to the rank of a learned profession. They have already done something towards the accomplishment of this object; and knowing that they are always willing to receive and fully consider suggestions offered from outside, we now venture to lay before them and the public a few remarks on the scale of remuneration allowed to teachers.

This is set forth in the 43rd Section of the Council's Regulations, which is as follows:—

> The remuneration of Teachers in charge of Schools will consist of—(1) Salary, (2) School Fees, and (3) Residence. The salaries will be according to the following scale:—
>
> | | | | |
> |---|---|---|---|
> | Class I. | Section A......... | £150 | per annum. |
> | | „ B......... | 138 | do. |
> | Class II. | Section A......... | 120 | do. |
> | | „ B......... | 108 | do. |
> | Class III. | Section A......... | 96 | do. |
> | | „ B......... | 84 | do. |
> | | „ C......... | 72 | do. |
> | Probationers | .... | 60 | do. |
>
> These will be joint salaries for husband and wife. To single persons, the salary will be £12 per annum less.

Now we submit that the occupation of teaching is not second in importance to any of those professions that are dignified with the title learned. It has very appropriately been compared with the clerical office; and we do not hesitate to say that the qualifications, natural and acquired, of a successful teacher must be quite as high as those of a successful minister. The one teaches men in one particular department; and though this is supremely high, yet the teachers' functions are confined to argument and persuasion. The other teaches youth in several departments of knowledge, using not only argument and persuasion, but dicipline and compulsion. Thus he requires more practical judgment than the other; while in point of scholastic attainments he should be at least the equal of the clergyman, seeing that he has to instruct those intended for the clerical profession itself. While therefore we do not wish to see the standard of the one at all lowered, we believe that the standard of the other should be raised to a footing of equality with it, and that in public estimation it should be so regarded.

We do not blame the Council, who doubtless at first have felt it safer to adhere to a scale similar or nearly similar to that they found in operation when the old systems were abrogated. But we submit that the status of teachers can scarcely be materially raised while the salaries remain as at present. Except in the case of a very few schools the fees do not reach even the same amount as the salary; and the total remuneration is altogether insufficient to maintain the teacher in such a position as we contend he ought to occupy. It is not only that this becoming position cannot be maintained by those now engaged in teaching; we have to look to the effect on those who join or would otherwise join the profession. Let us take the case of a man of education and energy, but who has not been trained for the teaching profession. Can we expect him to be contented with a present £60 per annum, with the prospect of obtaining about double by-and-by after repeated examinations and much study of the technicalities of the system—always provided that he is married and that his wife's services are available. We believe that as a rule there are but very few teachers in the employ of the Council who receive more than £120 per annum ; and that it is extremely difficult to achieve such a classification as will entitle one to a higher salary. And it must be borne in mind that the schools at which the fees exceed the salaries are not the rule but the somewhat rare exception. Such a man as we have described no doubt is to be found here and there in our public schools ; but can we be surprised if the first time any other means of making a living offers itself he abandons teaching altogether ? or that as he never intends to stay longer in the profession than he is compelled, he fails to interest himself in his work or to strive for a higher classification ?

On the other hand there is the case of the youth whose education is on the point of being finished and who has to choose a profession. As a clergyman or a doctor, a lawyer or a seaman, a surveyor or a merchant, a builder or an architect, a bank, clerk or member of the civil service, he may at once attain a position of respectability and become prosperous. In some of these occupations there is also the additional advantage of provision being made for old age and infirmity. But what is the case with the teaching profession? There is only the present certainty of getting from fees and salary about £80 a year, to be some years afterwards, and when he can have the assistance of a wife, increased to about double that amount, or at most to some £200 ; and this only by his being more successful than the great majority of teachers, and without there being any provision for old age or sickness. Can it then be wondered at that few young men of superior attainments and force of character are to be found willing permanently to devote themselves to the work of teaching ?

Now the scale that we should propose for the consideration of the Council is one that, without being extravagant, would remedy much of this. We should rather reverse the form of the table ; for whereas the present regulation begins with the highest salary and goes down to the lowest, we should prefer to begin with the lowest salary and proceed to the highest. The following is the scale we would suggest :—

Probationers		£60	Wife from £12 to £24 additional according to her competency.
Class III.	Section C	72	
	,, B	84	
	,, A	96	
Class II.	Section B	120	
	,, A	132	
Class I.	Section C	168	
	,, B	204	
	,, A	240	

Our first four steps may at first sight appear the same as those under the present regulation; but it will be seen that the salary to the teacher's wife would be in addition to that given to the husband and subject to be increased independent of any increase in his salary. We should recommend this for three reasons—the first that it would have a tendency to give the woman a greater interest in her work; the second, because it would be juster to award the increase in the department in which it is actually earned, than to increase the aggregate salary leaving it still to be understood that only £12 is earned by the wife, to whose exertions the increase may really be due; and the third, because at present on the death of the husband his wife is left wholly unprovided for. She is not recognised as in the employ of the Council; and however experienced and efficient she may be, she has at once to make way for the wife of the new teacher, who may be altogether inferior. This, however, is but a minor matter. What we chiefly rely on is that the salaries here proposed would be sufficient to serve as inducements to educated and able men to join the ranks of public school teachers and to adopt teaching as a permanent profession. There would then be as much inducement for our youth to become pupil teachers as there is for them to enter the church or the civil service. Those who once became teachers would adopt teaching as the permanent occupation of their lives and would strive to excel accordingly. We would soon have teaching recognised as one of the learned professions; and those following it would be duly respected and their means of usefulness widely increased.

We respectfully commend these thoughts to the consideration of the Council of Education. We know not that any objection can on principle be taken to them, unless it be said that we aim too high, and seek to elevate the teachers of this country above those engaged in similar work elsewhere. To this we will only say that it would be the greatest honour New South Wales can well achieve to make her teachers better paid, more happy and respected, and above all more efficient than those of any other country under heaven.

THOMAS TAWSE: SCHOOLMASTER.

Mr. Tawse "enters upon his duties."

The interval between the meeting of the Local Board and the following Monday was spent by Mr. Tawse chiefly in diligent preparation for the duties of the coming week. He did not neglect, however, the appearance of his little domain, but endeavoured to give an orderly and civilized look to his surroundings. Mr. Tawse was fully alive to the importance of attention to externals, feeling that the impressions received by children through the medium of the eye were likely to produce deep and lasting effects. Although the time available was too short to allow him to accomplish all that he desired, he nevertheless attempted to put the playground in order by removing such of the half-burnt logs as he could split and chop up for Mrs. Tawse's use, and by filling up some of the holes from which stumps had been extracted. By Saturday evening the whole aspect of the place had undergone a visible transformation, Mrs. Tawse had a good stock of firewood ready for use, and other arrangements had been completed with a view to add to her comfort or save her labour while her husband was engaged in school. It was a principle of Mr. Tawse's professional life not only to be prepared with the matter of his lessons, but also to have all the necessary arrangements completed before entering the school. He further endeavoured so to order his household and other duties as to leave his mind free from anxiety concerning anything but his school work. The result of this conscientious foresight was uniformly manifest in the success of his labours.

Their first Sunday in the bush was a day of severe trial. Their painful isolation, the lack of friendly sympathy, and the absence of the accustomed religious ordinances, weighed heavily upon their minds, and gave force to the contrast they drew between their present position and that which they had occupied in England. Reading, meditation, and that converse in which husband and wife delight when they mutually love and trust each other, occupied the day, and enabled them, ere retiring for the night, to feel that they were not wholly deprived of happiness.

The eventful morning at length arrived. Mr. Tawse rose betimes, and relieved his wife of all the coarser labour of preparing the breakfast. His toilet was made with unusual care—not that he was inclined to be foppish, but because he wished, as a part of his duty, to set his new scholars a good example. Besides, the innate gentlemanly feeling which influenced his actions led him to feel the propriety of maintaining a respectable appearance even in the remote bush. At a quarter to 9 o'clock, he entered the playground and looked around to see if any of the scholars had arrived.

It was a bright sunny morning, and although the heat was somewhat oppressive, yet the exhilarating influence of the pure Australian air made Mr. Tawse feel unusually cheerful. He noted with his usual quiet but deep sense of enjoyment, the sky, the landscape, and the vegetation around. Even the garrulous honeyeaters that chattered in the neighbouring trees and the busy ants running at his feet added to his pleasure and received a share of his sympathy. Thus half-musing and half-expecting, he waited till nine o'clock. As yet no scholar appeared, and Mr. Tawse walked round the playground, scanning the various avenues that led to the school from the dwellings in the neighbourhood. No human being was visible in any direction, and Mr. Tawse began to imagine that his watch must have stolen a march upon him during the night. Finding that no scholars arrived by a quarter past nine, he entered the schoolroom where he was joined by Mrs. Tawse.

"No scholars yet, Bessie," he remarked, "my watch must be fast."

"Perhaps the people are not in the habit of sending their children till half-past nine," Mrs. Tawse replied. "What with milking cows, feeding pigs, and other such employments, they must have a great deal to do in the mornings. The children will come yet, depend upon it."

Comforting himself with this hope, Mr. Tawse sat down, opened the School Registers, wrote in the various headings in his best style, and did all in his power to save time. Mrs. Tawse meanwhile talked to her baby, and raised his spirits so high that he attempted in his frolic to grasp his papa's hair, and evidently felt disappointed at finding such liberties were not allowed in school.

Shortly after half-past nine o'clock a little face was seen peeping in at the schoolroom door, but the owner suddenly decamped on finding itself observed by Mrs. Tawse.

"There is *one* of the scholars," she exclaimed "and perhaps there are more outside. They seem afraid to come in, or they may suppose they are not allowed to enter until they are told."

On going outside, Mr. Tawse found two little girls and a little boy and other children approaching the school. He therefore remained with them and expected he would soon see their parents.

"Well, little folks," he said in a cheerful tone, "so you have come to school." Then patting them on the head, he continued "and who is the best scholar, is it you, little man?"

The little man seemed to think that some very dangerous proposition had been made him, for on perceiving that he was the object of Mr. Tawse's address, he buried his face in his eldest sister's frock and bellowed lustily. The girls took no notice of Mr. Tawse but stared vacantly before them. Another group of children arrived at this moment, and shortly after they were joined by four more. As eleven pupils were now assembled, Mr. Tawse kindly desired the little things to walk into school. This they accordingly did. The ages of the children ranged between five and eight years: six of them were girls. Mr. Tawse led them to his desk, and began to ask of the eldest girl the particulars required for entering in the Register. He found they belonged to four families, but their names indicated that they were not children of any member of the Local Board.

While the children were walking up the room, Mrs. Tawse had time to observe them attentively. She noticed that they were clean in person and attire, for the most part healthy, and apparently well fed. But she further observed that the elastic gait and buoyant footstep of childhood were wanting. They walked with the stiff carriage and firm hard tread of adult age. The expression of their countenances corresponded; in place of the happy unconsciousness of infancy, they exhibited much of the *set* expression which characterises the features of those who have to toil heavily. These circumstances gave them so much the aspect of little old men and women that Mrs. Tawse could hardly repress a smile, though her next feeling was one of deep pity for the poor children who seemed doomed never to taste the joys of childhood.

Mr. Tawse had nearly completed his registration, when two big boys aged about twelve and fourteen years slouched noisily into the schoolroom, threw their caps into the corner behind the door, and proceeded to a seat, stamping heavily as they walked. Placing their elbows on the desks, they supported their chins with their hands, and in this position commenced grinning at Mr. Tawse who took no notice of their rudeness, although he saw and understood their manœuvres, but continued chatting in his winning way with the younger children. The big boys thinking themselves unobserved began butting at each other with their elbows, and at last burst out into a short but loud laugh. Mr. Tawse raised his head at this outburst, but his glance was met by an impudent defiant stare from the two culprits. He resumed the work which was nearly finished when, observing the elder boy turn to a little girl who sat near, he determined to watch the procedure. The boy had lifted his hand to slap the child, when Mr. Tawse sprang up and seized his arm with a powerful grip.

"If you attempt to move again, I'll thrash you on the spot," said Mr. Tawse in his usual subdued tone, but with all the emphasis of concentrated resolution.

The boy was cowed and subsided into a sulky fit, in which his companion joined. Meanwhile other pupils arrived, and by half-past ten nearly thirty had assembled. While her husband was taking down the names, Mrs. Tawse was endeavouring to occupy the younger children. In all her experience she had never seen girls who were proof against the attractions of a baby; but she found that her little Charley excited no enthusiasm whatever. The little girls hardly looked at him, though they did manifest a slight interest in his frock which was of a kind never before observed in the neighbourhood of Murrorong. It was long before she discovered that part of the daily labour of these little girls consisted in "minding the baby" at home, and that the care of their infant brothers and sisters made babies in general repugnant to their tastes.

Among the latest comers was a little fair-haired girl of about six years of age. Her dress and appearance indicated a greater amount of taste than was apparent among the other children, and she was the only child Mrs. Tawse had yet seen who could be deemed interesting. In her hand she carried a fine specimen of the waratah flower in full bloom. Mrs. Tawse had never before seen a flower of this kind, and at once admired its gorgeous crimson petals and bright green leaves, with their delicate veins and scalloped edges. The little girl advancing to Mrs. Tawse, held out her hand and presented the flower.

"Oh! what a beautiful flower!" the good lady exclaimed. "What colour! and what contrast! Thank you, dear; I must kiss you for this lovely gift."

Before Mrs. Tawse's ecstacy can be fully understood, it is necessary to remember that she was of an ardent and impressionable temperament. She felt the *poetry* of life, and this incident seemed to call forth in full strength the poetical feelings of her natare. A flower—and such a flower—voluntarily offered by an innocent child seemed to have for her a depth of significance which to ordinary minds is incomprehensible. Besides, this was the first evidence she had seen of anything like kindness or sympathy from either parents or children, and this thought sent the blood mantling to her cheeks. As she took the flower she stooped, her eyes beaming with pleasure, and attempted to kiss the little girl. The child regarding this movement as a hostile demonstration, withdrew from the proffered embrace and screamed violently. Mrs. Tawse looked and and felt astounded; for a moment she could neither speak nor move; and then the sense of mortification became so strong that she could with difficulty restrain her tears. The pupils generally looked on with stolid indifference, and Mr. Tawse rose hastily and assisted his wife by a few well-chosen words to regain her composure and dispel all traces of her wounded feelings.

By this time Mr. Tawse had registered all the children but three, and had provided them with silent occupation that left him at liberty to complete his task. One of the three was a girl whose age could not be divined from her appearance. She appeared from her height to be almost a woman. Her abundant hair was heaped into a mass at the back of her head, and appeared to have been utterly neglected, for the tangled ends seemed *tanned* by the sun as well as her face. Her features were regular and not unpleasing, and her grey eyes bespoke some amount of energy of character. Her scanty dress revealed a slight spare frame which had neither the strength of the male, nor the grace of the female figure. The heavy clumsy boots which she wore prevented her from stepping with lightness and ease, and she worked her arms when walking in a way that reminded Mr. Tawse of an English carter. The only trace of feminine feeling perceptible in her dress was a blue belt fastened round her waist with a bright buckle. As she stood before Mr. Tawse her manner though uncouth, was simple, natural, and not disrespectful. Still he was shocked when, instead of answering his inquiry, she turned to the bigger of the two troublesome boys before mentioned, and exclaimed, "Stop that, Jack Plowden, or I'll give you a slap in the mouth!"

(To be continued.)

The Auditor-General in the census report for Great Britain in 1851, states, that of every 100,000 children born at the same time, according to the present rate of mortality in England, 60,061 live to see the age of 20; of these, 53,824 reach the age of 40; of these, 37,998 enter the age of 60; of these, 9,382 attain the venerable age of 80; while of these, only 2 become centenarians.

HINTS FOR STUDENTS.

On Style.

It is not easy to give a precise idea of what is meant by Style. The best definition I can give of it is, the peculiar manner in which a man expresses his conceptions, by means of Language. Different countries have been noted for peculiarities of Style, suited to their different temper and genius. The eastern nations animated their Style with the most strong and hyperbolical figures. The Athenians, a polished and acute people, formed a Style, accurate, clear, and neat. The Asiatics, gay and loose in their manners, affected a style florid and diffuse. The like sort of characteristical differences are commonly remarked in the Style of the French, the English, and the Spaniards. In giving the general characters of Style, it is usual to talk of a nervous, a feeble, or a spirited Style; which are plainly the characters of a writer's manner of thinking, as well as of expressing himself; so difficult it is to separate these two things from one another.

All the qualities of a good Style may be ranged under two heads—Perspicuity and Ornament. For all that can possibly be repuired of Language is, to convey our ideas clearly to the minds of others, and, at the same time in such a dress, as, by pleasing and interesting them, shall most effectually strengthen the impressions which we seek to make. When both these ends are answered, we certainly accomplish every purpose for which we use Writing and Discourse.

Blair.

On Precision.

The exact import of Precision may be drawn from the etymology of the word. It comes from "precidere," to cut off: it imports retrenching all superfluities, and pruning the expression so, as to exhibit neither more nor less than an exact copy of his idea who uses it. I observed before that it is often difficult to separate the qualities of Style from the qualities of Thought, and and it is found so in this instance. For in order to write with Precision, though this be properly a quality of Style, one must possess a very considerable degree of distinctness and accuracy in his manner of thinking.

The words, which a man uses to express his ideas, may be faulty in three respects. They may either not express that idea which the author intends, but some other which only resembles, or is akin to it; or they may express that idea, but not quite fully and completely; or they may express it together with something more than he intends. Precision stands opposite to these three faults, but chiefly to the last. In an author's writing with propriety, his being free from the two former faults seems implied. The words which he uses are proper, that is, they express that idea which he intends, and they express it fully; but to be Precise, signifies that they express that idea and no more. There is nothing in his words which introduces any foreign idea, any superfluous, unseasonable accessory, so as to mix it confusedly with the principal object, and thereby to render our conception of that object loose and indistinct. This requires a writer to have, himself, a very clear apprehension of the object he means to present to us; to have laid fast hold of it in his mind; and never to waver in any one view he takes of it; a perfection to which, indeed, few writers attain.

Ibid.

RUDIMENTS OF LATIN.

Exercises in Lessons X. and XII.

27. Duæ egregiæ feminæ. Quatuor rubræ rosæ. Reginarum. Parvâ puellâ. Bonæ dominæ. Pennis albis. Filiam amatam. Claris aquis. Parvis puellis. Latæ mensæ. Bonam dominam. Primæ nigræ pennæ. Parvarum albarum columbarum. Parvis angustis insulis. Filiæ bonarum reginarum. Filiabus* bonarum reginarum. Lupæ nigræ. Alæ albæ columbarum. Rubris genis puellarum. Cera puellarum.

29. Thou art king of the island. You are wolves. We are masters of many slaves. I am loved. The wounded men are not praised. Thou art a timid lamb. I am the king's son-in-law. It is a great book. The walls are high. The good queens are unhappy. The fathers of the boys are cruel. The seas are broad. The brother's flowers are beautiful. They are men and brothers. They are women and mothers.

LESSON XIII.

If the dative and ablative plural of the first and second declensions are examined, the terminations will be found alike in every case. As certain words, different in meaning, would in these cases be precisely similar, some means of distinguishing them is necessary. For example: the dative plural of *filius*, a son, and of *filia*, a daughter, would be identical if the ordinary inflexions were used, viz., *filiis*. To obviate this difficulty, a change is made in the inflections of those feminine nouns belonging to the first declension which are liable to be mistaken for the corresponding masculine nouns of the second declension. The more important of these nouns may be learned from the following table :—

Masculine (2nd decl.)	Feminine (1st decl.)
Animus, *the mind*	Anima, *the soul*
Asinus, *an ass*	Asina, *a she-ass*
Deus, *a god*	Dea, *a goddess*
Dominus, *a lord*	Domina, *a lady*
Filius, *a son*	Filia, *a daughter*
Libertus, *a freedman.*	Liberta, *a freedwoman.*
Servus, *a slave*	Serva, *a female slave.*

These feminine nouns form the dative and ablative plural by adding *abus* to the root, thus—

Anim-abus
Asin-abus

A few words belonging to the first declension are masculine; as, Agricola, *a farmer;* Nauta, *a sailor;* Poeta, *a poet.* Their inflections are the same as in the case of feminine nouns: for example:—

Bonus nauta.

	Singular.	*Plural.*
Nom.	Bonus nauta, *a good sailor.*	Boni nautæ, *good sailors.*
Gen.	Boni nautæ, *of a good sailor.*	Bonorum nautarum, *of good sailors.*
Dat.	Bono nautæ, *to a good sailor.*	Bonis nautis, *to good sailors.*
Acc.	Bonum nautam, *a good sailor.*	Bonos nautas, *good sailors.*
Voc.	Boni nauta, *O, good sailor.*	Boni nautæ, *O, good sailors.*
Abl.	Bono nauta, *by, &c., a good sailor.*	Bonis nautis, *by, &c. good sailors.*

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* See lesson xiii.

Exercise.

30. Decline similarly to the foregoing :—

Egregius poeta, *an excellent poet.*
Perītus agricola, *a skilful farmer.*

LESSON XIV.

The Third Declension includes a very large number of nouns and adjectives. In the two declensions already discussed, the terminations of the nominative singular were few, and the mode of forming the genitive unvaryingly regular. But in the third declension, we shall find that the terminations of the nominative singular are very numerous; and that, although the genitive always ends in *is*, a further change is frequently made. This change consists in the addition of a syllable. The mode of adding this syllable may best be understood by studying the following

Vocabulary.

Nominative.	*Genitive.*
Poēma, N., *a poem.*	Poema-tis.
Lac, N., *milk.*	Lac-tis.
Mare, N., *the sea.*	Mar-is.
Animal, N., *an animal.*	Animal-is.
Flūmen, N., *a river.*	Flum-in-is.
Leo, M., *a lion.*	Leo-n-is.
Homo, M., *a man.*	Hom-in-is.
Pater, M., *a father.*	Pat-r-is.
Carcer, M., *a prison.*	Carcer-is.
Honŏr, M., *honour.*	Hon-ōr-is.
Flōs, M., *a flower.*	Flōr-is.
Mīles, M., *a soldier.*	Mil-it-is.
Os, N., *the mouth.*	O-r-is.
Voluptas, F., *pleasure.*	Volupt-āt-is.
Ars, F., *an art.*	Ar-t-is.
Tempus, N., *time.*	Temp-or-is.
Nox, F., *night.*	No-ct-is.
Vox, F., *a voice.*	Vo-cis.

Great care should be taken to ascertain and fix on the memory the genitive as well as the nominative singular, inasmuch as the other oblique cases are mostly formed from the genitive. It will be necessary to give several paradigms in this declension, in order fully to exhibit the different inflections.

Leo, *a lion*, M.

	Singular.	*Plural.*
Nom.	Leo, *a lion.*	Leones, *lions.*
Gen.	Leo-nis, *of a lion.*	Leon-um, *of lions.*
Dat.	Leo-ni, *to, or for, a lion.*	Leon-ibus, *to, or for, lions.*
Acc.	Leo-nem, *a lion.*	Leon-es, *lions.*
Voc.	Leo, *O, lion.*	Leon-es, *O, lions.*
Abl.	Leo-ne, *by, &c., a lion.*	Leon-ibus, *by, &c., lions.*

Voluptas, *pleasure*, F.

	Singular.	*Plural.*
Nom.	Volupt-as.	Volupt-ates.
Gen.	Volupt-ātis.	Volupt-atum.
Dat.	Volupt-ati.	Volupt-atibus.
Acc.	Volupt-atem.	Volupt-ates.
Voc.	Volup-tas.	Volupt-ates.
Abl.	Volupt-ate.	Volupt-atibus.

Mare, *the sea*, N.

	Singular.	*Plural.*
Nom.	Mar-e.	Mar-ia.
Gen.	Mar-is.	Mar-ium.
Dat.	Mar-i.	Mar-ibus.
Acc.	Mar-e.	Mar-ia.
Voc.	Mar-e.	Mar-ia.
Abl.	Mar-i.	Mar-ibus.

EXERCISE.

31. Decline Leo ferox, *a fierce lion.*
Magna voluptas, *a great pleasure.*
Mare angustum, *a narrow sea.*

LESSON XV.

The safest course will always be to find the gender of nouns of the third declension, and also the genitive singular, from a dictionary ; but the following general rules may assist the memory to some extent. Exceptions to these rules can only be learned by practice.

THIRD DECLENSION.

1. Nouns terminating in *a*, *e*, *c*, *b*, *n*, *ar*, *ur*, and *us*, are Neuter.
2. Nouns terminating in *do*, *go*, *io*, *as*, *is*, *x*, *s* preceded by a consonant, and *ēs* when the number of syllables is not increased in the genitive, are Feminine.
3. Nouns terminating in *er, o, os, and ĕs* when the number of syllables is increased in the genitive, are Masculine.

EXERCISE.

32. Give the English for—

Asinam tres feroces leones vorant. Altum est mare. Flos ruber. Florum rubrorum. Poema famosum. Lac album est. Lacte albo. In flumine rapido. Crudelium hominum. Magno honori. Timidis militibus. Ora clausa. Arte poeticâ. Tempori futuro. Nox est obscura. Voces militum claræ sunt. Fortes nautæ ferocem leonem oppugnant. Honoris causa. Duo milites leones irritant. Lupus avidus omnia animalia vorat ; sed leo fortis lupum vorat.

VOCABULARY.

Clausus, *shut.*	Obscurus, *dark.*
Famosus, *famous.*	Poeticus, *poetic.*
Futurus, *future.*	Rapidus, *swift.*

WATER.

I. DISTRIBUTION.—Water occurs,

1. In the forms most familiar to us, such as rivers, lakes, the sea, rain, snow, ice, &c.

2. In combination with solid bodies. It forms about three-fourths by weight of all living plants and animals.

A human body weighing 154 lbs., contains 111 lbs. of water.

A jelly fish weighing 2 lbs., which was examined by Professor Owen, possessed only 16 grains of solid matter.

Timber in an average state of dryness contains nearly one-third its weight of water.

II. COMPOSITION.—Pure water is a mixture of two gases, Oxygen and Hydrogen, combined in the proportion of 8 lbs. of Oxygen to 1 lb. of Hydrogen, or two pints of Hydrogen to one pint of Oxygen.

The composition of water may be easily demonstrated thus ; if a piece of the metal potassium be thrown into a dish containing water, it has such an affinity for the oxygen of the water, that, when combined with it, it ignites. On putting it into the water, the metal actually appears to take fire, and hydrogen is set at liberty.

2. If ordinary coal gas or any substance containing hydrogen be burnt in the air, and a dry cool glass tumbler be held over the flame, drops of water will be seen to condense on the under surface of the glass. The hydrogen of the combustible unites with the oxygen of the air, and water is thus formed.

3. If a vessel be filled two-thirds full of hydrogen, and the remainder with oxygen, and a light applied, the gases unite with a violent explosion, and water is formed. This is a dangerous experiment, as the vessel containing the gases is very liable to burst.

Forms.—Water is capable of assuming the three forms in which matter is found:—1st. Solid, as is seen in icebergs, hail, snow and hoar-frost; 2nd. Liquid, which is its general form; 3rd. Gaseous, when it assumes the form of vapour, clouds, or steam.

III. Natural Condition.—Water is never found in a state of purity, it always contains more or less of earthy ingredients.

1. Rain Water.—This is the purest form of water, arising from the fact that it is the first condensed water after it has passed from the ocean to the atmosphere. It, however, contains traces of gases through which it passes in the act of descending.

2. River Water.—The impurities here are such as arise from salts, earthy matter, the vegetation at the bottom, or those arising from the drainage of the land.

3. Spring Water.—This water always contains a quantity of earthy matter dissolved in it. The nature of these ingredients depends upon the locality; the most common are carbonic acid, sulphuretted hydrogen, carbonate of lime, sulphate of lime and common salt. The quantity of such matter existing in water may be ascertained by taking a quantity of water and boiling it in an evaporating basin; the water will at last entirely disappear, and the inorganic matter will be left at the bottom. This will be found a useful experiment to those who live in a locality where the purity of the water is doubtful. Besides the impurities above mentioned, other and more injurious impurities exist in spring or well water in the form of organic remains, both living and dead. When the cholera broke out in London in 1854, it was noticed to rage most furiously in a locality that received its supply of water from an old established pump, famed for its clear, cool, and sparkling water. The water was analysed and found to contain an enormously high per centage of impurities, both organic and inorganic. The pump was chained, and a diminution in the number of deaths was at once apparent. Persons should avoid drinking surface waters of all kinds, especially in the neighbourhood of houses or farm yards. Water possesses in a wonderful degree the power of dissolving in itself other substances; they become invisible to the eye, but are often most injurious to the system. Dr. Lankester, in his lecture on "Water," says, "The sparkling of these waters arises from the carbonic acid gas they contain; and in nine cases out of ten that carbonic acid gas is derived from the decomposition of animal and vegetable matters. Their cooling taste is no less indicative of their impure origin, as it arises from the formation of salts, which could only occur from the decomposition of organic matter."

Wells and pumps near graveyards are also objectionable; the water in this case is generally also cool, and bright, and sparkling; "But," says Dr. Lankester, "the remains of humanity in the churchyard supply the nitrates and carbonic acid of the water."

4. Mineral Waters.—If water be so charged with foreign matter as to have an unpleasant taste, or acquire medicinal virtue, it is called Mineral Water. The principal mineral waters are,—

(1.) Chalybeate, in which oxide of iron predominates. This kind is found at Cheltenham.

(2.) Sulphureous, in which sulphuretted hydrogen predominates. Harrowgate waters are of this kind.

(3.) Alkaline, which contain large quantities of carbonate of potash, or carbonate of soda.

(4.) Saline, which are impregnated with neutral salts, *e.g.*, epsom salts.
(5.) Waters in which carbonic acid is very abundant, as in Seltzer Water.

5. Sea water contains quantities of a large number of salts, amongst which the most predominant are common salt and chloride of magnesium. By a process invented by Dr. Normandy, sea water may be distilled and rendered perfectly pure and fit for use.

IV. Properties.—At ordinary temperatures water is a clear, colourless, tasteless, inodorous and transparent liquid. It freezes at 32 degrees Fahrenheit, and boils at 212 degrees. It evaporates at all temperatures: it yields only in the slightest degree to pressure: one cubic inch at 60 degrees Fahrenheit weighs 252·456 grains.

V. Uses.—The uses of water are so generally known, though not always put into practice, that it would be superfluous to mention them here.

RIVER BASINS.

With the exception of the Desaguadero, which flows from Lake Titacaca into Lake Uros, in the basin of continental streams, all the rivers of South America belong to one or other of three oceanic basins; *i.e.*, those of the Pacific, Atlantic, and Carribbean. The rivers flowing into the Pacific are mere mountain torrents; the Magdalena is the only one of importance that finds its way into the Carribbean Sea, or American Mediterranean, as it is called by some; but those inclining to the Atlantic comprise some of the most gigantic streams on the surface of the earth. Of these, the largest—the Amazon, Marañon or Orellana—has been described in a former paper. The Magdalena drains a tract of country in the extreme north-west, 700 miles in length, and 72,000 square miles in area. This basin contains the following capitals of States and Provinces:—Antioquia, Tunja, Popayan, and Moxos. The Essequibo, Demerara, Berbice, Corentyn, Surinam, and Maroni, all cross the plain between the mountains of Guiana and the Atlantic. The Essequibo has a basin 400 miles long and 61,600 square miles in area, and contains the capital of British Guiana—George Town.

The river Tocantins has a northerly course through Brazil into the Para Channel, which it joins opposite the Isle de Johannes. Its basin has a length of 1,260 miles, an area of 380,500 square miles, and contains the towns of Para and Goyaz. The basin of the Paranahyba is situated to the east of the Tocantins, having the same general direction, and joining the Atlantic at St. Louis, about 3 deg. south latitude. It has a length of 650 miles, and an area of 11,500 square miles (Hughes), 115,200 square miles (Mackay). The San Francisco basin is to the south and east of the two last mentioned, having a length of 900 miles, and an area of 187,200 square miles. The river has a northern course at first, and afterwards an eastern one, joining the ocean near the 11 deg. south, and about half-way between Pernambuco and Bahia. The towns in this basin are Macayo, Sergipe, Ouro-Preto. The Maranaho is situated between the Torcantins and the Paranahyba. The Colorado, 600 miles long, and the Negro, 800 miles, flow into the Atlantic to the southward of the Rio de la Plata.

The basin of the Orinoco occupies the northern portion of the great river plain of South America. It is bounded on the north by the mountains of Venezuela; on the west by the Andes; on the south by the mountains of Guiana. This basin has a length of 1,000 miles, and an area of 352,000 square miles. The river itself has a circuitous course; rising in the mountains of Guiana, it takes first a westerly direction, then northerly, and then by flowing to the eastward finds its way to the Atlantic at about 8 deg. north latitude, and 61 deg. west longitude. At a distance of 130 miles from its source, the Orinoco receives an affluent called the Casiquiari (200 miles) from the south, which joins the river Negro, a tributary of the Amazon, and thus the two river basins are united; and a boat entering the Amazon from the

Atlantic might find a way again to the same position by a navigation of the Amazon, the Negro, the Casiquiari, and the Orinoco; a distance, from one river's mouth to the other, of upwards 3,000 miles. The principal tributaries of the Orinoco are the Guaviari, Meta, and Apure, on its left bank; the Ventuaria, Cauri, and Caroni, on the right. Below the village of Angostura, 280 miles above the mouth of the river, no impediments to its navigation occur; higher up its course is occasionally interrupted by rapids; but in general it has a deep and navigable channel nearly to its source.

Nearly the whole basin of the Orinoco is occupied by vast grassy plains, called by the Spaniards, who first visited the country, *Llanos* or *Savannahs.* The exception to this general level field-like appearance is towards its highest portion, where the country assumes a likeness to the selvas, or wooded plains of the Amazon. The llanos resemble in general features the prairies of the Mississippi Valley, but have for the most part a lower level, and are annually inundated to an immense extent by the tropical rains. These llanos are calculated to extend to an area of 260 thousands of square miles, the mean height of which is not more than 200 feet, and of so gentle a declivity that a slight rise in the Orinoco, or sometimes even the wind, reverses the current of the tributary streams. This fact will bring to mind, in the case of some readers of the journal, the story of the shepherd's wife, who was terrified at seeing the Murrumbidgee, or one of its tributaries, in the unheard of act of flowing the wrong way, and arguing from that datum, that the end of the world must certainly have arrived.

The vegetation of the llanos consists chiefly of rich grass, varying from a few inches to four feet in height. The only trees that are met with are a few clumps of different varieties of palms, around which the soil is most fertile. The aspect of the llanos changes with the seasons. In the rainy seasons the whole of the country for hundreds of square miles is inundated; but when the waters subside the plains are covered with the most luxuriant verdure, the grass along the watercourses rising to the height of several feet. Here the jaguar, or tiger of the American continent, lurks for a spring upon some straggler from the droves of mules and horses that feed upon the plains. In the dry season the llanos assume the aspect of a desert; the intense heat burns up the grass, the earth cracks, and huge alligators and serpents remain buried in the dried mud till they are awakened from their long sleep by the first showers of spring. The rivers and pools abound with gymnoti, or electrical eels, and over the plains roam large herds of native deer.

The great wealth of the llanos consists of the vast herds of oxen which feed upon them; and in this respect they resemble our own plains of the Darling, Lachlan, and Murrumbidgee. Horned cattle were first let loose on these extensive plains by Christoval Rodriguez (in 1548), three hundred and twenty years ago, and they have increased to almost countless numbers. Everywhere through these vast districts, nearly one-fourth larger than New South Wales, the inhabitants rear cattle. At distances of a day's journey from each other. detached huts are to be seen, built of reeds bound together with thongs, and covered with ox-hides. When the great traveller, Humboldt, visited this country, the oxen, mules, and horses were to be seen roaming over the plains in innumerable herds completely wild. For a further account of these steppes see the "National School Reading Book," No. 4, "E. Hughes's Physical Geography," and "Humboldt's Travels in South America; or, Tableaux de la Nature."

An account of the basin of the La Plata will complete our hydrographic notice of South America. This basin occupies a tract of country between the basin of the San Francisco on the north-east, and the lake region of inland drainage on the south-west and west. It is bounded on the north by the Brazilian tableland, the ridges of which separate it from the basin of the Amazon; and this separation is continued in a south-westerly direction to the lake region before mentioned. The Rio de la Plata is a broad fresh-water estuary, formed by the junction of the rivers Paranha and Paraguay. The Paranha flows from the mountains of Brazil, in a south-westerly and southern direction; and about 760 miles from the sea receives the stream of the Paraguay, which drains a more westerly portion of the basin. The length of the Paranha, reckoned from its most distant sources to the mouth of the Rio de la Plata, is 2,350 miles, and the Paraguary branch alone has a course of 1,260 miles. The Uruguay, 800 miles in length, unites with the Paranha on its left bank near its junction with the estuary.

Both the Paranha and Paraguay are navigable for vessels of considerable burden to a distance of nearly 1,000 miles. The navigation of the Uruguay is interrupted by numerous falls above the last 200 miles of its course. Some of the smaller affluents of the Paraguay are only divided from the tributaries of the Guapore, one of the principal branches of the Madera River, by a narrow portage of three miles across. The waters carried from the black soil of the jungle region flow northerly into the Amazon, and southerly into the La Plata, in both cases forming an immense turbid flood, perceptible in the Amazonian torrent for a distance of 500 miles into the ocean, and on that of the La Plata for 100 miles, through which distance it causes a powerful current.

This third great river basin of South America is included in the level region known as the *Pampas*, a Peruvian or Quichuan term for plains or flats. These flats are of great extent and diversity, and would require a paper exclusively devoted to their description. The western bank of the Paraguay is of the sandy desert kind of country; west of this again are grassy plains; and to the north the basin under notice is occupied by jungles and swamps. As the pampas of Buenos Ayres are partly included in this region, we will close with a few remarks upon them. They lie between the 32nd and 40th degrees south latitude, extending from the shores of the Atlantic to the foot of the Andes, and embracing an area of 315,000 square miles. This great plain consists of four distinct regions. The *first*, extending nearly 200 miles to the north-west of the town of Buenos Ayres, is covered with clover and thistles of enormous size. These flourish at distinct seasons; in winter the clover is rich and strong, and affords excellent pasturage to numerous herds of cattle. On the commencement of spring the clover gradually disappears, and the thistles extend their leaves over the whole ground. They shortly shoot up to a height of ten or eleven feet, and form a luxuriant and impenetrable wood. The heat of summer scorches them up, and the *Pampero*, a south-west wind from the ranges of the Andes, levels them with the ground, where they rapidly decompose, and are succeeded by another crop of clover.

The *second* region of the Pampas of Buenos Ayres extends 450 miles to the west of the first, and is clothed with long luxuriant grass, over which several thousands of cattle and horses graze. The *third* region, which reaches to the base of the Cordillera, is a grove of low trees and thorny shrubs, interspersed with patches covered with dry loose stones; numerous swamps abound, and also lakes and lagoons, formed by the periodical overflowing of the streams which traverse the plain. The *fourth* region lies to the south-west of the town of Buenos Ayres, and consists for the most part of fine moist plains, covered with grass in some parts, and soft peat in others; extensive swamps and lakes with extensive reed beds are frequently met with; the dry ground produces thistles in great abundance. For an account of the Indians of the Pampas, see "E. Hughes's Physical Geography," taken from Sir Francis Head's "Journeys across the Pampas."

HYDRO.

GALLERY LESSONS.

I.—*What is meant by Gallery Lessons?*

Gallery Lessons are those, the object of which is to exercise, train, and develop the minds of a number of children at one time.

The children who receive these lessons are arranged in galleries—which are usually constructed to accommodate large numbers—so that the eye of the teacher may at once command the whole.

These lessons are of two classes:—1. Special lessons, such as those given for criticism. 2. Those embracing all collective teaching. Now as the minds of children, during their lessons, are always to be exercised, the same amount of *care* is necessary in the *preparation* of either.

II.—*As to their nature and character.*

1. They should be awakening, interesting, and stimulating. Children, when in school, are too often dull and heavy, and thus induce their teachers to think that their cases are hopeless ; but look at the same children when in the playground; see the amount of energy and determination the dullest child will evince in throwing a cricket-ball or in using a skipping-rope! What then is the cause of this heaviness in school? It is because the gallery lessons are not given rightly, or perhaps not given at all. Let the teacher use his gallery aright, adopt a cheerful lively manner in giving his lessons, and the dullest child will soon be led to feel that there is even a pleasure in going to school. The cry with some desponding teachers is : "Oh! the children in *my* school are so dreadfully *stupid*, I have no patience with them." Don't despond ; you may depend upon it there is a cause for all this, only you have not yet found it out. Your gallery blackboard, a piece of chalk, and a little sympathy (the latter will cost you nothing) will, in time, remove this great difficulty.

2. They should be impressive. If they are *only* to awaken, interest, or stimulate, their value is but trifling. Let them be the means of impressing important facts, phenomena, &c., upon the minds of your children. You must not expect satisfactory results unless your gallery lessons are made to tell, that is, are so given as to produce them. Theory *alone* will not enable a teacher to give a successful gallery lesson, great experience is also requisite. It is to be remembered that gallery lessons are very different from mere class teaching. Numbers are to be looked upon in a very different light. You must make *all feel* that you and they are working *together*. Don't forget that you have to work on the *mass* of minds, and not on a few or one perhaps. It is simply painful, during a gallery lesson, to see one boy or a few doing the work of fifty or perhaps a hundred. Let each child feel that his or her opinion may be called for at any moment.

III.—*The Principal Methods of giving Gallery Lessons.*

All children *know something*. They all possess a latent power within themselves they know not of. The object of the teacher should be, by patience and perseverance to lead them to feel they possess this power ; and, by a little encouragement, to develop it ; leading them on from the known to the less known, aud from the less known to that which at one time was to them not known at all. Let your first aim be the exercise of the perception, your next the development of the conception which is a step in advance of the former, but yet not far enough. The catechetical method must also be brought in, that is, tell and question ; but remember all questioning should exercise thought—the mind must be put into action. Having exercised their minds. draw back from them that which you have exercised their minds upon ; let each question link itself on to the former answer, thus you will lead them up to the point you are aiming at. The work of the child must be analytical, yours synthetical. Put your subject together piece by piece, the children giving you the materials, and thus assisting in the construction. By this means you may lead them to understand general laws, which will enable them to discover new truths. If all these points are properly attended to, successful results may be expected ; but if you only study one point and neglect the rest, you keep the child on the brink of knowledge but nothing more. Exercise, therefore, his reason, but do not neglect his judgment. Apply yourselves thus, and you will become not only instructors but educators.

IV.—*The End of all Gallery Lessons, or the Effects they should have on the Children.*

They should be made to lead children :—

1. To observe attentively.
2. To investigate carefully.
3. To compare truly.
4. To judge correctly.

Without the *last* all the rest would lead to nothing.

V.—*Directions to those who give Gallery Lessons.*

1. They should be prepared carefully.
2. They should be arranged logically.
3. They should be given vividly.
4. Take care that they are returned adequately both by oral and written examination.

Never attempt to give a gallery lesson without some fixed plan of your own. Consider carefully the requirements of the children, and the subjects that are most needed. Do not acquaint them with every result, but rather guide them to it.

SQUEERS.

[Our contributor has styled these lessons "Gallery Lessons," by which name they were formerly known in the mother country. Here, they are more commonly designated "Object Lessons."—EDS.]

INTELLIGENCE.

TEACHERS' MUTUAL INSURANCE.—A meeting of teachers under the Council of Education was held on the 17th October in one of the school rooms at Fort Street, for the purpose of considering a scheme of Insurance adapted to the circumstances of teachers, prepared by Mr. Rutledge. The Chair was occupied by E. Johnson, Esq., senior inspector for the Sydney district. A considerable number of teachers were present, most of whom, however, were from schools in the country around Sydney. The resolutions, a copy of which appeared in our last issue, were read and submitted for discussion, in which Mr. Dunlop, Mr. Flannery (inspector), Mr. Lester, Mr. Peyton, Mr. Burrows, Mr. Madley, Mr. Lyons and others took part.

Mr. DUNLOP moved, and Mr. BURROWS seconded,—"That the scheme of insurance now read is sound in principle and worthy the attention of the teaching profession."

Mr. MADLEY moved, and Mr. CLARKE seconded, an amendment,—"That the scheme is unsound in principle, and therefore of no benefit."

The amendment was put, and negatived, and the motion carried by a considerable majority. The following were appointed a committee to mature the scheme and confer with the Council of Education on behalf of the general body of teachers, viz.:—W. Wilkins, Esq., secretary of the Council of Education; E. Johnson, Esq., with Messrs. Dunlop, Burrows, Lyons, Peyton, and Rutledge. A vote of thanks was accorded to Mr. Rutledge for the trouble he had taken in preparing the resolutions submitted to the meeting. The compliment was acknowledged, as was also a similar one to the Chairman. The Committee, so appointed, have laid the scheme before the Council of Education, with the view of obtaining assistance in perfecting and working it. The Council of Education have so far anticipated something of this kind that none are eligible as candidates for employment in any school, under its control, but such as are certified to be in good health, and free from such diseases as are calculated to shorten life.

SUPERANNUATION.—The question of Superannuation, with the details for carrying it into operation, is still under the consideration of the Council of Education. There is reason to hope that the result will be favourable.

HUNTER RIVER PUBLIC AND DENOMINATIONAL TEACHERS' ASSOCIATION.—The first meeting of the society was held on the 7th September, 1867, at East Maitland, Mr. John Wright—then of East Maitland and now of the Glebe, Sydney—in the chair. Besides the chairman, there were present seven others, to whom with that gentleman the society owes its being. Two other teachers joined immediately afterwards, but no considerable accession to the numbers took place till the month of April, 1868. The number on the roll for the past year, as reported to the annual meeting, was thirty-one; but it was remarked on the occasion that the attendance had not increased in proportion. During the year twenty-five meetings were held, some of which were characterised by considerable interest. Among the subjects which specially engaged the attention of the teachers may be mentioned Grammar, Arithmetic (in theory and practice), Geometry, Algebra, Latin, French, and the Art of Teaching. Lecture lessons were also delivered on the English Language and Literature, Physiology, &c., and a series commenced on the Tonic Sol-Fa method of teaching singing. Papers were read by Mr. Inspector Dwyer and Mr. George Suttie on the "Advantage of studying Logic," and "Physical Geography," which were duly appreciated by the society. The association to which the foregoing remarks have had reference possesses a valuable library, to which the National Board liberally contributed, a liberality emulated by the present Council of Education in allowing the free use of it to the existing society, and to which it is proposed to make some additions, principally in the shape of scholastic publications, when the Australian Journal of Education will not be forgotten.

RULES OF THE HUNTER RIVER PUBLIC AND DENOMINATIONAL TEACHERS' ASSOCIATION, ADOPTED 5TH SEPTEMBER, 1868.

I. That the Association be maintained for the purpose of its original establishment—mutual improvement.

II. That the management of the Association be entrusted to a committee of seven, including the President and Secretary.

III. That the committee and officers be chosen annually, by ballot, in September.

IV. That all teachers employed by the Council of Education may be members of this Association, subject to the proviso hereinafter mentioned, on being proposed, signing the roll, and paying the subscription fee. Provided that any member may demand a ballot, in which case two-thirds of the votes then present shall be necessary to an election.

V. That a subscription fee of two shillings and sixpence shall be paid half-yearly by each member.

VI. That no election of President or Secretary shall be valid, unless by a majority of two-thirds of the members present.

VII. That the ordinary meetings of the Association shall be on every alternate Saturday, beginning with the annual meeting in September.

The following are the officers and committee elected for the present year—President, W. W. Cameron, Lochinvar; Secretary and Librarian, Mr. C. L. Traveller, Oswald; Committee—Mr. J. P. Ollis, Branxton; Mr. G. Cameron, West Maitland; Mr. Munday, Bishopsbridge; Mr. Molster, Buchanan; Mr. John Davis, Morpeth; the President and Secretary *ex officio*.

TASMANIA.—NEW PUBLIC SCHOOLS ACT.

The legislature of Tasmania has recently passed a Public Schools Act, the principal clauses of which are quoted below. As will be seen on perusal, this Act makes provision for the compulsory education of children under certain circumstances. The experiment about to be tried in Tasmania will doubtless be watched with much interest by educationists in other colonies, and it is to be hoped that the anticipated advantages will be fully realised.

"2. The Governor in Council may, from time to time, appoint not more than Seven persons as and to be a body politic and corporate by the style of 'The Board of Education.'"

"7. The Duties of the Board shall be,—

"(1.) To frame Regulations for the distribution of all moneys granted by the Legislature for the purposes of Public Education.

"(2.) To determine the localities in which Public Schools shall be established or maintained.

"(3.) To frame Regulations for the inspection of Schools, and the examination and classification of Teachers; to determine upon the course of instruction to be adopted in the Schools.

"(4.) To fix the maximum fees to be charged to parents and others who send children to the Public Schools.

"(5.) To recommend to the Governor in Council for appointment such Officers as may be necessary to carry out the provisions of this Act, and in like manner, from time to time, to recommend the removal of any such Officer.

"(6.) To regulate the functions and duties of Local School Boards.

"(7.) To regulate the issue of Certificates of competency to Teachers.

"(8.) To see that the moneys provided by the Legislature for the purpose of Public Education be applied to the objects for which they were granted."

"10. In every Town that may hereafter be laid out on Crown land a piece of land of at least Five acres in extent shall, on the application of the Board, be reserved as a School Allotment, and thereupon the same shall become and be vested in the Board for the purposes of this Act; and in every Township already laid out, in case there is no reserve for school purposes, the Commissioner of Crown Lands shall, on the application of the Board and with the consent of the Governor (in Council), reserve and mark out an allotment not exceeding Five acres for school purposes, and the same shall thereupon become and be vested in the Board."

"12. In every locality in which a Public School is established the Governor in Council shall annually, on the application of the Board, appoint any number of duly qualified persons, not exceeding Nine, as and to be a Local School Board, and any of such persons may be removed by the Governor in Council at pleasure."

"13. Subject to the provisions of this Act, the parent of every child between Seven and Twelve years of age shall, in case such child lives within the distance of One mile from a Public School named in the Schedule, send such child to school."

"14. The Board of Education may, by Resolution, declare that it is desirable that any other Public School than those named in the Schedule should be added to the said Schedule; and such Schedule shall be laid upon the Table of both Houses of Parliament at their next sitting, and after being for Thirty days on the Table of each House of Parliament such School shall for all purposes be deemed to be inserted in the Schedule to the Act, unless either House by Resolution declare the contrary."

"15. The parent of any child may apply for and receive a Certificate from the Local School Board exempting such child from attendance, in whole or in part, at a Public School under the Board of Education, upon satisfying the Local Board of the existence of any one of the following grounds; viz.,—

"(1.) That such child is being privately educated in reading and writing.

"(2.) That such child is sent to a Public or Private School.

"(3.) That the health of such child renders it unable to attend school.

"(4.) That the parents cannot do, in whole or in part, without the labour of such child.

"(5.) That such child can read and write.

"(6.) That such child cannot safely attend school.

"And every such Certificate of Exemption shall state the ground of exemption, and shall be in force for a period of One year, or for such shorter period as may be named in such Certificate; and during the period named in such Certificate the holder thereof shall be freed from the operation of the provisions of this Act in respect of the child named therein."

"16. In case any Local School Board ascertains that any child between the ages of Seven and Twelve years, and resident within the distance of One mile from a Public School named in the Schedule B., does not attend school, any member of such Board may give the parent of such child notice in writing, in the form or to the effect in the Schedule, calling upon such parent to send such child to school."

"17. If the parent of any child between the ages of Seven and Twelve years, resident within One mile from a Public School named in the Schedule B., and not holding any Certificate of Exemption in respect of such child, refuses or neglects to send such child to such Public School after having been called upon in manner aforesaid to do so, then and in every such case the parent of such child may be summoned before any Two Justices of the Peace, who may order such parent to send such child to the said school, and may determine whether such child shall be admitted free from all charge, or what sum per week, not exceeding the maximum rate to be fixed by such General

Regulations as aforesaid, shall be paid by such parent to the Master of such School for the education of such child."

"18. In case any parent, after having been ordered as aforesaid by any Two Justices of the Peace to send any child to a Public School named in the Schedule B., neglects to obey such order, or having obeyed the same for a time without sufficient cause ceases to do so, such parent shall forfeit a sum not exceeding Forty Shillings, to be enforced by distress only and not by imprisonment."

Report of the Board of Education for 1867.

During the year 1867, there were 105 schools in operation; the average number on the rolls was 5,413, and the average daily attendance was 4,112.

The cost of instruction was—

	£	s.	d.
Parliamentary grant	£12,968	6	10
School fees	3,658	2	8
Total	£16,626	9	6

The average income of 58 teachers, including the amount to their wives, was £169 7s. 3d., and the minimum income was £59 5s. 6d.

Owing to the continued illness of Mr. Stephens, who for many years has held the office of inspector, the work of inspection devolved principally upon the secretary, Mr. Burgess. This gentleman, we learn, has since been appointed inspector in conjunction with Mr. Stephens, the island being now divided into two inspectoral districts. We shall have occasion to refer to Mr. Stephens' report before concluding this notice, and in the meantime we proceed to examine that furnished by Mr. Burgess. The point that strikes us most forcibly is the fact that Mr. Burgess uses the phraseology of what is known as the "Revised Code" in England, although the provisions of that Code are not in force in Tasmania. This system of "payment for results," as it is untruthfully designated by its admirers, has been introduced into Victoria, but not into any other Australian colony. The only explanation that occurs to us of Mr. Burgess' singular mistake is that he mistook the "Programme of Instruction"—a document resembling our own "Standard of Proficiency"—for the standards of the Revised Code. The teachers seem to have taken advantage of the inspector's mistake to present their pupils for examination under any "standard" they pleased, and the consequence was an astounding proportion of passes. We judge the table given by Mr. Burgess to show the per centage of passes to be utterly unreliable as an indication of the order of merit of the schools examined. To quote from Mr. Burgess' report:—"Although, as a general rule, the best schools do undoubtedly obtain the highest per centage of 'passes,' it would not be fair to compare them merely by 'passes:" several other points have to be taken into consideration,—such as the size of the School, whether one of tens or one of hundreds; the average ages of the children presented in each Standard; *the proportion presented, and the number eligible for examination in the higher Standards, but purposely kept back for fear of failure.* In some schools the children pass easily and intelligently, are in fact ahead of the requirements of the Programme, while in others they drag through. I am aware that several teachers have worked quite as hard to pass 80 per cent. of their scholars as others have to pass 90."

If there be any utility in examining a school on Revised Code principles, or in publishing the result of such examination in a tabular form, it is to show the public the relative merit of different schools. Persons who are not conversant with school matters will, notwithstanding Mr. Burgess' disclaimer, still imagine that the table of per centages represents the order of merit, and will be altogether unable to make the necessary allowances to correct that impression. Worthy teachers must therefore be placed in lower positions than they really deserve. This fact is another exemplification of the essential injustice of the Result System. We regret to see that Mr. Burgess has recommended the Tasmanian Board to adopt this system, but trust his further experience will lead him to see its utter want of adaptability to the Australian colonies or any other country where teachers and inspectors do their duty.

Mr. Stephens appears to have furnished two reports. In one of these, a very brief one printed with the Board's report, he remarks that "several of the less experienced teachers appear to have misunderstood the object of the Programme of Instruction, and others have been a little perplexed by the somewhat contradictory directions which were a necessary result of the alternate visits of two inspectors holding different views and acting on different principles in their examination. This objection has been removed by the division of the island into two districts."

For some inscrutable reason or other, the Board refused to publish Mr. Stephens' General Report, which, however, was printed as a Parliamentary Paper. As a document giving a general view of the state of education in the whole island, it is of great value, especially as such information will not henceforward be obtainable from the report of one inspector. The report is even useful to educationists in other colonies on account of Mr. Stephens' breadth of view and the numerous and important suggestions it contains. The following will doubtless be read with interest.

"I pass on to the general objects of the system of instruction adopted by the Board for the Public Schools. I am especially anxious that the Programme shall not be confounded with the scheme introduced under the 'Revised Code' in England. The latter, from which portions of the Standards of our scheme of classification were borrowed, was constructed solely for purposes of examination and is not necessarily connected with the ordinary working and arrangement of the School. Here something of a more comprehensive nature was required. It was desirable to introduce a principle of classification applicable to the varying circumstances of different Schools; to define the course of instruction; to prevent too great a preponderance of any special branch of study, or the undue advancement of any section of the School; and at the same time to provide a scale by which the standard of instruction might* be approximately tested. In Schools which are rarely attended by children over 12 and 13 years of age it is futile to attempt to reach a high standard. But, by giving sound instruction to the elementary subjects, we may at least lay a groundwork which will fit the youth of our growing population for the ordinary exigencies of life, and enable them to take advantage of the opportunities or means of improvement which may hereafter fall in their way. The tendency of scholars to make rapid progress in those branches of study which harmonise with the peculiar idiosyncrasy of their Teacher, and to fall behind in others, will often have been noticed by those who have had any practical acquaintance with Schools. They will exhibit an extraordinary knowledge of the heights of mountains, the length of rivers, or the position of places in all parts of the world, and at the same time be utterly unable to spell correctly an ordinary sentence out of their lesson books. Or they will solve complicated sums in arithmetic with astonishing readiness, and yet fail to answer the simplest questions on the meaning of words of daily occurrence in their reading lessons. These are extreme cases, but the tendency towards this defect is notorious. It is not to be expected that a Teacher will be able to maintain under any circumstances a perfectly uniform rate of progress in all the subjects of instruction. His first duty is to classify his Scholars according to some fixed principle; and their proficiency in reading is the simplest and most convenient basis for classification. The Standards, so far as the Teacher is concerned, are merely indications of the general course of study to be followed in the several classes. When he finds, as he inevitably will find, that individual children are falling behind the average proficiency of the class, he is not to consult his own convenience and adopt a separate classification for separate subjects, but rather to make temporary arrangements for paying special attention to the deficiencies which have attracted his notice. And the estimate which is formed of his efficiency will mainly depend upon the result of his labours in thus carrying out the objects of the Programme. This is, of course, only one part of his duty. At the risk of being regarded as stating a

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* In determining the class and also the amount of the salary, the Board will take into consideration not only the literary qualifications of teachers or candidates as tested by examination, but also the nature of their testimonials, their previous character, the condition of their Schools (in the case of Masters already employed) and their method of conducting them, and the average daily attendance of children.

truism, I am continually obliged to point out that instruction in the elementary branches is not *education.* These are merely a portion of the skeleton, so to speak, of that ideal form which is to be developed and brought to life under his hands: a part of the means to an end, not the end itself. Here it is that the system of 'payment for results' exercises a mischievous influence upon the Teacher's work. Only the lower and more mechanical part of training is capable of being measured by scales and standards, and represented by an equivalent in the shape of pounds, shillings, and pence as remuneration for work done. The higher and nobler duties,—the exercise of moral influence, the maintenance of dicipline, the inculcation of good habits, the patient labour in counteracting the effects of evil associations and example, the cultivation and development of intelligence and the reasoning faculties—all these are beyond the reach of the educational statistican. And the inevitable tendency of the 'result' system must be to lead a Teacher to regard as the most important of his labours those which pay him best, and to degrade the system of education into a lifeless and mechanical routine. That such a tendency has become plainly manifest under the operation of the Revised Code in England, in spite of all the restrictions introduced to prevent it, is shown by the Reports of some of the most experienced of H. M. Inspectors; and no different result could be expected except by those who altogether ignore the motives and influences which regulate the actions of ordinary men in all ranks of life. In Tasmania, the defect in regard to the payment of Teachers lies rather in the opposite extreme, and there is no reason to dread any ill consequences from the introduction of the Programme of Instruction if it be properly understood and its operation carefully supervised. But if undue weight be given to examination in the mechanical branches of instruction, or if attention be specially called to comparative statements of the per-centages of passes under certain limited standards, the Teacher will inevitably be led to take an entirely wrong view of the charge entrusted to him, and the same evils must follow as under a system of 'payment for results.' To judge fairly of the efficiency of a School we require a knowledge not merely of the actual attainments in the elementary branches, but also of the respective ages of the children, the time under instruction, the intelligence and the amount of general information acquired, the discipline and 'tone' of the School, the local peculiarities, with many other important details which cannot be exhibited in a tabular form like the readings of scientific instruments."

ORIGINAL CORRESPONDENCE.

(Writers of all communications intended for publication in this Journal must furnish us with their names, not necessarily for publication, but as a guarantee for good faith and correctness. The Conductors of the Journal are not responsible for opinions expressed by correspondents.)

To the Editor of the Australian Journal of Education.

SIR,—I find that many persons have endeavoured to transplant the Mimosa, or Wattle, without success.

Now, as this is a tree that most persons living in the bush may obtain for planting around their dwellings, and as all teachers should do what is in their power to beautify their homes, a knowledge of the best mode of transplanting these trees may be useful.

I, last August, planted eight in the school ground, six of them grew and will soon be an ornament to the place. My mode of proceeding was as follows. I opened out a large circular hole, about two and a half feet deep, laying the top sod on one side: whatever manure I could procure I placed in the bottom with the sod taken from the top. I then took my barrow and spade to where the trees grew, and dug up what trees I required, *without disturbing the roots,* taking them up earth and all. I placed these carefully in the holes I had prepared, filling up with the clay and gravel taken from the bottom of the hole. By this means, and giving them a little water, my labour proved quite successful. This week I planted eight more, and have also several English trees growing and looking well.

Hoping that others may be encouraged to try and do the same,

I am, Sir,
Yours respectfully,
A. LANSDOWN.

Tirranna.

P.S.—Trees about eight inches in height are the best for transplanting as they grow faster than larger ones.

SCHOOL RULES.

To the Editor of the Australian Journal of Education.

SIR,—I beg to forward a code of laws which I have drawn up for the use of the school under my charge.

I have read with much pleasure the remarks on "School Rules" contained in the last issue of your valuable journal, and fully endorse the sentiments therein expressed.

I trust you will pardon the liberty I have taken in addressing you on so important a subject, and wishing the *Australian Journal of Education* every success,

I am, Sir,
Your most obedient servant,
JAMES MEMES.

Woodford Dale Public School,
Lawrence, Clarence River,
September 10th, 1868.

CODE OF LAWS FOR WOODFORD DALE PUBLIC SCHOOL, 1868.

I.—*Moral Qualities.*

Pupils to be constantly, intelligently, and suitably employed, and to speak kindly and politely to their teachers and to one another. They are not to deface or destroy the school property. They are also to be truthful and honest in school and home work. Falsehoods and profane language must not by any means be used.

II.—*Order.*

Position of pupils to be uniform and not slovenly, and all movements and changes to be regularly and orderly made. When once a command is given it must be obeyed, and will not be repeated. Disobedient pupils to be punished as the teacher may think fit.

III.—*Punctuality.*

Children who are not at their posts in proper time, to be kept in school after school hours, and during the time of their confinement to be writing on slates the word "late."

OPTICAL ILLUSION.

To the Editor of the Australian Journal of Education.

SIR,—In reply to Mr. H. Parsons, I beg to say that, I know of no work in which an explanation of the phenomenon he alludes to, is mentioned ; but I think the following principle in optics will account for it, viz. :—*the impression made by an object on the retina of the eye, remains there for a certain time*—generally from the one-tenth to the one-fifteenth of a second. When these impressions succeed each other with rapidity, they become continuous ; because sufficient time does not elapse to allow the preceding impressions to be effaced. This is the principle on which the phenakistiscope is constructed, and which also explains the appearance of a ring of fire being seen when a lighted stick is whirled round rapidly. As the motions of the spokes, as well as their distances from one another, gradually increase from the centre of the wheel to the tops of the spokes, the impressions which are not effaced, are depicted as it were gradually farther from the spokes, the nearer the tops.

The impression of a spoke along with its previous impressions on the retina, causes the radiation; and when the motion becomes very rapid, the first and some of the following impressions of a spoke, are seen on the succeeding one, and hence the crossed appearance.

I may remark that a similar principle exists in the science of Pneumatics, and that sensations of sound do not always cease so soon as the causes which produced them: the sensations will be in existence, though the causes which produced them are successive.

I am, Sir,
Yours respectfully.
W. Smith.

Cowra, 17th Oct., 1868.

TEACHERS' MUTUAL INSURANCE.

To the Editor of the Australian Journal of Education.

Sir,—On reading in *our* last number of the Journal the exposition of a scheme for Mutual Insurance among Teachers, I was struck with the simplicity of the plan proposed, and at once devoted myself to test the soundness of the principle involved. As the conclusion I arrived at was unfavourable to the scheme, I attended a meeting on the subject, held at the Fort Street Model Schools, and there stated my opinions on the matter.

In the report sent to the daily papers, I find the arguments in favour of the scheme given in extenso, whereas it is simply stated that I moved, " That the scheme was unsound in principle," thereby leaving it to be inferred that no arguments were introduced by me in favour of my motion.

Having the welfare of all our body at heart, and believing that this scheme of Mutual Insurance will not be attended with such beneficial results as are anticipated, I will take the liberty of briefly stating my objections to it.

First, I maintain that the rate of premium is too high for so small a policy.

It is assumed that five hundred teachers join at first; the average age of the teachers under the Council of Education I believe is about 32 years.

Given 500 persons of 32 years of age, the question arises, "How many may be expected to die annually ?" I believe I am right in saying that *at least* fourteen may be expected. This will give the average duration of life to be sixty-eight years, no doubt " a consummation devoutly to be wished for," at least by the Mutual Insurance Society.

The promoter of the scheme spoke about exempting *superannuated* teachers from the benefits of the society; but I ask, are a man's representatives to be debarred from receiving the benefits of a society, to which he has subscribed, say ten years, because he happens to have been superannuated? Is the family of a superannuated teacher likely to be better provided for than that of a teacher in active service?

Now the sum to be paid annually by each member of the society will, at least, average fourteen times five shillings, or £3 10s., and this for the *chance* of securing the sum of £100 or £125 to his family after death. On reference to the tables of the Mutual Provident Society, I find that persons of the age of 32 may insure for £100 by the payment of an annual premium of £2 10s. 7d., and this annual payment is materially decreased by the receipt of bonuses every five years. It appears to me, therefore, that in a pecuniary point of view, the Society would not be an advantageous investment for its members.

My second objection is to the uncertainty of the income. The membership lasting but one year, there will be no vested interest to keep teachers up to the mark in forwarding their subscriptions, and, if only on this ground, I believe the affair will prove a failure.

Again, I find no gradation in the rate of payment, so that a pupil teacher of 16 years of age would be expected to pay as much as a man of 60 years old, whereas a young man commencing life may insure for £100 by an annual payment of about thirty-seven shillings. This uniformity of payment is opposed to all principles of insurance: if it were for a *charitable* purpose no one could object, but as *business* is meant, I hold this to be a fundamental objection.

The conclusion I draw, therefore, after a careful consideration of the subject is, that the scheme as proposed is one that would be, comparatively, of very little benefit to the teachers, and that it would be both safer and cheaper for them to provide for their families by insuring in some well known company.

Trusting that I have not encroached too much upon your space,

I am, Sir, yours faithfully,

Sydney, October, 1868. LEWIS G. MADLEY.

To the Editor of the Australian Journal of Education.

SIR,—As some misapprehension may exist in the minds of teachers respecting the scheme of Mutual Insurance which I submitted to the meeting at Fort Street on the 17th October, I desire to place before the readers of this journal my reasons for believing in its soundness. And in doing so, I am not to be at all understood as in the slightest degree reflecting on existing Insurance Societies.

1st. The system proposed is self-adjusting, as its resources correspond to its demands with mathematical exactness. If few embrace it, the calls will be proportionately few. If these few consist of persons amongst whom a high rate of mortality may be expected to obtain, then the calls are still proportionate to the greatness of the risk. If many join the association, the calls will be many; but the premiums will be lessened to a corresponding extent. Whether the mortality among teachers be greater, or less than people imagine, the payments of each of the members will be exactly what they ought to be—in proportion thereto. Therefore calculations as to probabilities are inadmissible.

2nd. Admitted that the average age of teachers under the Council of Education is 35 years, any insurance company that would grant a policy at a less premium, for persons of this age, than would be payable under this system, must inevitably "come to grief," and those who were so simple as to be misled by these mistaken calculations, must put up with the bitterness of their disappointment; because if the premiums are not more in the aggregate than will meet claims as they arise, the whole concern must collapse.

3rd. If it be true, that the aggregate amount of premiums paid by a certain number of persons 35 years of age, will enable a company to meet cases as they arise, and have a sufficiently large sum to put out at interest, so as to enable it ten or twenty years hence to meet demands with the same premiums, it follows—that teachers are lending money just to that extent, the company being their agents, to be repaid with interest, *minus the expences of management*, after the death of the lender. But the question arises,—how many teachers are in a position to lend money? Will not teachers, as a rule, be content to contribute just so much as will secure their families against the risk of destitution in the event of death, while their children are unable to provide for themselves, rather than entrust to a company to be repaid after death *when their families are grown up*, heavy premiums which present wants can ill afford to spare.

4th. But ordinary insurance companies do require from every person, a premium sufficiently large, to cover the risk of persons of that age, and to have money to lend after deducting for expenses of management; and during the existence of the company, the demands occasioned by the death of persons insured are met; then it follows, that a premium that would enable a company to do this, must not be less than would be paid under the system I propose.

5th. If the rate of mortality increase with advancing age, (which no one denies) thereby rendering the risk of death greater as the policy holders grow old, the payments made under such a system as this, must be far less than those to insurance companies; and, consequently, the stability of an association founded on these principles, must be much more firm than any other, because it is relieved from the responsibility of providing for those who leave the profession, their places being filled by younger persons. Whether teachers who become superannuated should be eligible for continued insurance, is a question for teachers themselves to determine. The only difference it will make, is to increase the frequency of the calls. But as the object is to make provision for the families of teachers, that might otherwise be left in a state of destitution through the loss of their natural support, occasioned by the hand of death, the insurance of the lives of old men whose families may be grown up, is foreign to the design of this scheme.

6th. The objection that the scheme must press unfairly on the various classes of teachers, is of very little force. No scheme can be devised that will exact contributions in proportion to the benefits to be derived. Age is not the only inequality to be considered. We have habits and health to take into consideration; and these so far neutralize each other, that not only will the elderly person follow many a junior to the grave, but even the ailing will see many a strong man laid low in the dust. Those however that can calculate on an immunity from an early grave, will be under no necessity for joining this association. It is to be hoped, that those who "cannot afford to be so generous" as to meet the calls as they arise, will have the prudence and humanity to have their lives insured in one of the existing offices, and thereby relieve their families from the painful apprehension of destitution, in the event of death taking away their natural support.

7th. The certainty of permanence under such a system, is as reliable as can be imagined of any Fire or Marine Insurance Company. What greater guarantee have persons who insure houses or vessels at sea this year, that there will be so many other houses or vessels insured next year as to justify them in renewing their insurance, than teachers whose lives are exposed to similar risk. And yet, although their houses were not burned, nor their ships lost, during previous years, they still continue to insure; simply because, as prudent men, they will not run the risk of being ruined by the possible contingencies of fire or shipwreck. Neither do they look upon their premiums as lost, but simply items of expense rendered necessary to cover risk. Then why should teachers be expected to be less prudent; for their risk is equally great and as much so during the succeeding year as in that which preceded it.

8th. In considering a system based upon these principles, we have no theories to deal with. The young and the improvident may stand aloof, or insure elsewhere if they please. It is not liable to any serious abuse, seeing it must be exclusively confined to teachers; and the regulations of the Council of Education are such as to prevent an influx of the aged or infirm. We have facts only to deal with. For such small contributions as actual necessity may require, the families of teachers, while young, will have something like a certainty that in the event of their natural support being cut off by death, they will have means secured by which they can still obtain a livelihood at some other business. The necessity for insurance ceases as men grow old, because then their families may be expected to be grown up, and able to do for themselves.

Yours faithfully

JAMES RUTLEDGE.

NOTICES TO CORRESPONDENTS

Will appear in our next issue.

Several communications are held over for want of space, as are also the article on Geology, and the solutions of questions 9 and 10 given in our last number.

QUESTIONS FOR SOLUTION.

1. Of a certain quantity of goods 17 per cent. are worthless, the rest being sold at a gain of 15 per cent., 4½ guineas are lost. Find the cost price?

2. A bankrupt's estate gives three dividends, the first 1s. more than the second, and the second 11¼d. more than the third. The creditors lose £728 12s. 1d., and the gross total of the bankrupt's debts is £1421 13s. 4d. Find each of the three dividends?

3. How many gallons of wine at 12s. 6d. must be mixed with 27 at 10s. so as to gain 10 per cent. by selling the whole for £23 8s. 10½d.?

4. We hope to receive an arithmetical solution of question 4, proposed in the October issue.

5. From a cask containing 125 gallons of wine, a certain quantity is drawn off, and the cask is then filled with water. This operation having been repeated three times, 27 gallons of wine remain in the cask. How much is drawn off each time?

6. The town N is 21 miles north from the town S. One person lives at a place A, 43 miles west from S, and another person at B, 29 miles east from N. How far apart are the residences of these persons?

1, 2, 3, *and* 4 *to be solved by arithmetic.*

7. Suppose 500 persons, whose ages average 32 years, insure their lives in a proprietary office for £100 each at an annual premium of £2 10s. 7d.; what ought the declared profits, exclusive of expenses, amount to at the end of the first quinquennial period if, 14 deaths take place among them every year, reckoning money at 7 per cent. compound interest?

8. If the average age of 500 persons is 32 years, what will be the average age at the time of death, if 14 die every year?

9. If a right-angled isosceles triangle be described upon the side of a square, and right lines be drawn from the right angle of the triangle to the remote angles of the squares, the side of the square through which the lines pass is trisected.

8. But one satisfactory solution having been received to question 8 in our October number, correspondents are invited to try again.

ANSWERS TO QUESTIONS IN No. 10.

Question 1.—Correct solutions from Arith, C. H. B., D. Treehy, E. Hewison, E. Adrain, J. Cameron, P. Downey, Philomath, Rustic, T. C., T. Dunlop, and W. J. Huggart.

The following is the solution by T. C.:—

If $\frac{2}{9}$ of the selling price = the profit, then the remaining $\frac{7}{9}$ must be = to £26 19s., the first cost; ∵ £26 19s. × $\frac{9}{7}$ = £34 13s., the selling price.

Question 2.—Correct solutions from E. Hewison and J. Cameron.

The following is the solution by E. Hewison:—
By the question £1430 = annual sales.
Now £1430 × ·07 = £100·1 = equal profit at 7 per cent.
Again 4 months = ⅓ year.
And $\frac{1430}{3}$ = 476⅔ = amount sold in 5½ months at 9 per cent.
Hence 5½ : 12 :: 476⅔ : 1040.
And 1040 × ·09 = 93·6 = annual gain at 9 per cent.
Now £100 2s. − £93 12s. = £6 10s.
Wherefore it is more advantageous to sell at 7 per cent. by £6 10s. per annum.

Question 3.—Correct solutions from Arith, D. Treehy, E. Hewison, E. Adrain, J. Cameron, P. Downey, Philomath, T. C., T. Dunlop, R. Bousfield, and W. J. Huggart.

The following is the solution by Miss E. Adrain:—

If 5 sheep cost £2 3s. 6d., 32 will cost £13 18s. $4\frac{4}{5}$d., which is also the selling price of 29, having subtracted 3 for profit from 32. If 29 are sold for £13 18s. $4\frac{4}{5}$d, one sheep will be sold for $\frac{1}{29}$ = 9s. $7\frac{1}{2}$d.

Question 4.—We have received no arithmetical solution of this problem.

Question 5.—Correct solutions from C. H. B., D. Treehy, E. Hewison, E. Adrain, J. Cameron, Philomath, Rustic, R. Bousfield, T. C., T. Dunlop, and W. J. Huggart.

The following is the solution by W. J. Huggart :—

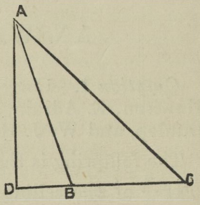
Let x = the number in the flock,
then $\frac{1}{2}x + \frac{1}{2}$ = the number delivered to the 1st company,
and $\frac{1}{2}x - \frac{1}{2}$ = the number then remaining ;
also $\frac{1}{4}x - \frac{1}{4} + \frac{1}{2}$ = the number delivered to the 2nd company,
and $\frac{1}{4}x - \frac{1}{4} - \frac{1}{2}$ = the number then remaining ;
also $\frac{1}{8}x - \frac{1}{8} - \frac{1}{4} + \frac{1}{2}$ = the number delivered to the 3rd company,
and $\frac{1}{8}x - \frac{1}{8} - \frac{1}{4} - \frac{1}{2}$ = the number then remaining ;
then per question
$\frac{1}{8}x - \frac{1}{8} - \frac{1}{4} - \frac{1}{2} = 20$ Clear of fractions.
and $x - 1 - 2 - 4 = 160$
$\therefore x = 167$.

The following is the solution by D. Treehy :—

The shepherd had 20 sheep left after the 3rd company had taken its share ;
$20 \times 2 + 1 = 41$ number of sheep when 3rd company arrived, and
$41 \times 2 + 1 = 83$ " " 2nd " and
$83 \times 2 + 1 = 167$ " " 1st " .
And consequently his flock consisted of 167 sheep.

Question 6.—Correct solutions from E. Hewison, J. Anderson, P. Downey, and Philomath.

The following is the solution by P. Downey :—

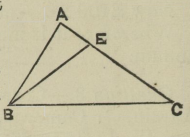


Let AD be due south, B the position of the ship, 15 degrees east of D when first seen, and let AC be south-east. Then the distance BC is 18 miles, and the angles DCA, DAC are each 45 degrees, and the angle BAC is 30 degrees. Hence in the triangle BAC, we have sin. 30 degrees : sin. 45 degrees :: BC : BA, and log. BA = log. BC + log. sin. 45 degrees − log. sin. 30 degrees.

Log. BC = 1·2552725
Log. sin. 45 deg. = 9·8494850
11·1047575
Log. sin. 30 deg. = 9·6989700
Log. BA = 1·4057875
and BA = 25·455842, or 25·456 miles.

Question 7.—Correct solutions from Arith and J. Anderson.

The following is the solution from Arith :—



Let ABC be the triangle, of which the angle ABC is greater than BCA : it is required to prove directly that AC is greater than BA.

Make the angle EBC equal to ECB (I., 23), then because EBC is equal to ECB, therefore EB is equal to EC ; to each of these equals add EA ; then EB + EA are equal to CE + EA ; but EB, EA are greater than BA (I., 20), therefore CE, EA, *i.e.* CA, is greater than BA.

Question 8.—J. Buckley's solution lies over till our next issue.

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SCHOOL INSPECTION.

At the close of the year, it may not be out of place to offer some remarks on the subject of School Inspection; especially as some misapprehension exists in the minds of many teachers respecting it, and as some in certain high positions appear to entertain very erroneous impressions respecting this important feature of our educational machinery. We are not disposed to reflect on the character of the schools which existed prior to the passing of the Public Schools Act, further than to say, that however useful they may have been under the circumstances that existed formerly, they would not now be considered adapted to the wants of their children by any intelligent people however poor. Many of them were not of that character which this enlightened age demands, and which is absolutely required to enable the people of this country to maintain a prominent or even respectable position among the nations of the earth. A sudden removal of such teachers as might be found capable of giving children only an imperfect English education, was not so much the motive for a system of inspection as the pressure it would bring to bear on teachers to raise their schools to that state of efficiency for which the public are willing to pay, and which the enlightenment of the age imperatively demands. As a state of transition is generally painful, so in those instances where the operation of the system of inspection required much change in the management of the school and the mode of instruction, the change has, no doubt, produced uncomfortable sensations. Every change in a habit once contracted, whether it be in the mode of handling a tool, of holding a pen, or walking, is at first felt to be irksome, and especially when greater exertion is required. But the change once accepted and practised for a time, the parties not only become reconciled, but prefer it. The visit of an inspector, when the school is in a tolerable state of efficiency, and even in those instances, in which it may not yet be fully attained, but is honestly sought, is hailed as a great advantage. The teacher not only has the merits or defects of his work laid open, but he finds in the inspector a useful friend. There are too many instances of neglect of co-operation, and sometimes even of obstruction, on the part of those whose assistance ought to be afforded, and the visit of the inspector is often found to have a most salutary effect in such cases. During the past month, we have received a communication from a teacher, complaining of the condition of the school premises, residence, &c. But this is a mistaken course. The position of the teacher, were the local authorities to discover that the attention of the Council of Education was drawn to the matter through what he had written to us, might be rendered very uncomfortable. The inspector is the only hope teachers have in cases of this kind. When he visits the school, as a matter of course HE inspects the premises. HE sends his report to the Council of Education; and HE is free from local annoyance on account of what he may write. It is not merely in matters that occur between the teachers and School Boards that inspectors' visits are found so desirable by teachers. The information which is gained from him respecting school management, the clue which his method of examining the children affords the teacher as to the mode in which lessons should be given, the style of teaching he ought to adopt, and the defects, then discovered, which may have previously escaped his notice, are found to be advantages, which every zealous teacher highly appreciates.

The inspector, as such, is to be regarded as an impartial witness, required to give evidence to the Council of Education on all matters relating to the school; and the degree of instruction afforded to the children. Of course he is expected to be a truthful witness, one who will give evidence according to the standard and pattern furnished him by the Council. He has very little discretion to exercise, so that if he be an honest man, whatever his private feelings may be, there is but little room left for the exercise of caprice. The degree of instruction is not stated in his report as the expression of a vague opinion. It is in accordance with fixed rules, which recognise correctness on the part of all in a class as "good," while the expressions, "fair," "tolerable," &c., indicate the extent to which they approximate thereto; or to that degree of excellence in their performance expected by the Council. The outline of the examination, the questions, and the numbers of the pupils who have given satisfactory answers, are all noted for the information of the Council, who are fully in a position to arrive at a just estimate of the efficiency of the school. In the thoroughly impartial character of the evidence, (for this is the proper term), as to the condition of any one school, every teacher under the Council has an interest, seeing that these examinations are all to some extent competitive. Of course there are many things on which opinions must be taken, because samples cannot be produced; but even in such instances, the estimate is expected to be formed in accordance with well understood patterns, by which inspectors are required to be guided. The result of the examination entered in the Report Book, enables the teacher to see more clearly the defective points to which his attention should be more particularly directed, or where more effective methods should be applied.

The whole system then, is in harmony not only with the interests of the public and the rising generation, but with those of the teachers themselves, who find in the inspectors, friends who stand between them and local influences, which interfere too often with their personal comforts, and usefulness. They likewise afford teachers a guarantee that their zealous and faithful discharge of duty will not go unrecognised, at least by the Council of Education. We are clearly of opinion that there are few teachers indeed, but feel convinced, that the plan of inspection now in operation, affords protection and encouragement to the teacher, and ensures efficiency, calculated in the highest degree to diffuse the blessings of education, throughout the length and breadth of the land.

Speaking for ourselves, we should prefer to be placed under a thoroughly rigid Inspector rather than under one easy to please, and in quest of popularity. When he first examines a school, his searching scrutiny lays open to the faithful teacher all defects, and when at length he pronounces the school effective and perfectly sound, the corporate body he serves knows that his judgment is reliable, the world esteems his opinion as worth having, and as that of one not easily deceived or satisfied. The teacher thus establishes his credit, and reaps the due reward of his earnestness and perseverance.

A SYSTEM OF TEACHING ARITHMETIC.

[*Continued from page* 334.]

[*We have considered it desirable, in order to draw attention to various methods of teaching and to evoke discussion, to afford contributors opportunities of stating their views on such points; but it should be understood that the Conductors of this Journal do not necessarily identify themselves with the opinions so expressed.*]

WEIGHTS AND MEASURES are performed in the same way as money; the only difference being that the number of parts in the principal weight or measure, are divided and subdivided into their respective parts. The £, for instance, is the principal or standard coin for reckoning money—the shilling being the twentieth part of a pound, the penny the twelfth part of a shilling, and the farthing the fourth part of a penny. In the same way the ton is the standard or principal weight for heavy goods, to which we apply what is called Avoirdupois Weight—the cwt. is the twentieth part of a ton, the quarter is the fourth part of a cwt., the ℔. the twenty-eighth part of a quarter, and the ounce the sixteenth part of a ℔. In weighing other things, for which great exactness is required, we use other weights. We use what we call Troy Weight for gold, silver, or precious stones, the quantity of which is usually reckoned in ounces (12 ounces make a ℔.): the ounce is divided into dwts., and these again into grains. In mixing medicines, where a very small quantity would make a great difference, another weight, called Apothecaries Weight, is used: the ounce is here also the principal or highest weight, but the divisions and subdivisions are different. The parts of an ounce are called drachms, the parts of a drachm are called scruples, and the parts of a scruple are called grains. In measuring land, the quantity or extent is reckoned in acres; and when distance only is spoken of, we apply what is called Long Measure, the principal denomination being the mile, the eighth part of which is a furlong, &c.

These observations we have felt it proper to make, in order to show the analogy between the mode by which money is calculated, and other things for which we use weights and measures. The *mode* of proceeding is the same in all. The only difference being the number of parts into which they are respectively divided. Suppose we had 4 diggers, whose bags contained different quantities of gold dust. To reckon such valuable property as this, we employ Troy Weight. An ounce of hay, or corn, or salt would not make much difference in the price; but as gold is £3 17s. 9d. per ounce, even the 480th part of an ounce, or a grain, is worth some pence. The quantity obtained by the

		ozs.	dwts.	grs.
1st	is	496	17	20
2nd	„	248	6	22
3rd	„	5074	18	9
4th	„	635	9	23

Now, in order to ascertain the whole quantity, add up the number of grains, which we find amounts to 74. Suppose these were 74 farthings, we would divide them by 4, because there are 4 farthings in a penny. But these are grains and not farthings; and as there are 24 grains in a dwt., we divide the 74 by 24, when we find it contained 3 times and 2 over. Now this 3 represents 3 twenty-fours, or 3 dwts., and the 2 that remained over in the division, represents the 2 grains over. As in money, where we place farthings under farthings, and carry pence to the pence, so in Troy Weight, we set grains under grains, and carry the dwts. to the dwts., and add them up together, when we find there are 53 dwts. Now, if these were pence, we would divide them by 12; because there are 12 pence in a shilling; but as they are dwts., and not pence, we divide them by 20, because there are 20 dwts. in an ounce. We find that there are 2 twenties in 53, and 13 over. This 2 respresents 2 ounces; and as the 53 were dwts., so the 13 over are dwts.: this 13 we set down under the dwts., and the 2 we add to the ounces—as we said before, "everything to its own kind." The ounces, when added up, make 6,455. Hence we find that the total quantity of gold between them is 6,455 ozs. 13 dwts. 2 grs. In the same way, may different quantities in any other weight or measure be added up.

Subtraction of Weights and Measures is also done on the same plan as money. Suppose these 4 men are offered £3 15s. per ounce for their gold at the diggings, but the 3rd, being a shrewd fellow, will not take less than the Mint price, £3 17s. 9d. for his gold; he takes his away, and the rest sell theirs; we want to know what quantity they have to dispose of. This may be done by adding up what the 1st, 2nd, and 4th have. But as all belonging to the 4 have been added up together, we may subtract the share of the 3rd from the total we have already found, namely, from 6455 ozs. 13 dwts. 2 grs.,

we take 5074 „ 18 „ 9 „

We still proceed as with money, beginning at the right hand. We find the 9 cannot be taken from the 2, but, as in money, we *add one of the next higher denomination to the minuend, and also to the subtrahend.* Suppose these were pence, the next higher denomination would be shillings, and we would add a shilling to each; but they are grains, and not shillings, therefore, as the next higher denomination is dwts., we add a dwt. to the minuend, and also to the subtrahend, because if we add to the one, and not to the other, we destroy the equality. Now, it will be just the same to the minuend if we change this dwt. for 24 grains, and add them to the 2, when we shall have 26 grains. Then 9 grains from 26 grains will leave 17 grains Now, the dwt. we added to the subtrahend, we put with the 18 dwts„ which make the number 19; then these 19 dwts. from 13 dwts.? We cannot take them. But we have recourse to our old method—add one of the next higher denomination to the minuend, and also a similar quantity to the subtrahend. An ounce is the next higher, therefore we add to each an ounce. The ounce added to the minuend, we change for dwts., and as we get 20 dwts. for an ounce, we add these 20 to the 13 dwts., which raise their number to 33: from these we take 19 (the 18 dwts., and the dwt. added to the subtrahend) when 14 will remain. But we have now added 1 ounce to the 5074 ounces, which raises this number to 5075 ounces, and these taken from 6455, leave 1380. The quantity of gold dust the three sold was, therefore, 1380 ozs. 14 dwts. 17 grs.

MULTIPLICATION OF WEIGHTS AND MEASURES is done precisely on the same principle—dividing each denomination by *as many of the less as make one of the greater*, and carrying each denomination or kind to its own denomination or kind, *i.e.*, pence to pence, shillings to shillings, ozs. to ozs., ℔s. to ℔s., &c.

DIVISION OF WEIGHTS AND MEASURES has been treated of so fully in our last article, that it is unnecessary to enter on this part of our subject again.

REDUCTION.—We have simply to observe that it is just like giving or receiving change. Suppose we have a cheque for £5 13s. 6d.; we desire to get it changed; we get cash for the cheque at the bank. But suppose we wanted to pay this in very small sums, the bank would perhaps be kind enough to let us have this sum in small change. Well, if we want it in shillings, they pay us 113 shillings and 6 pence, because as we wanted to go from a high name or denomination (£) to a low denomination (shillings), we *multiply* by as many of the less as make one of the greater, therefore £5 × 20 = 100, *i.e.*, 100 shillings; but to these 100 there are 13 shillings to be added, which make the number 113 shillings. It may be that we might require to have this 113 shillings and 6 pence in pence, then we must multiply the 113 shillings by 12, because in going from a high name or denomination (shillings) to a lower (pence), we *multiply* the higher by as many of the less as make one of the greater. We do not multiply the 6 pence by 12, because it is not higher, being only pence; but it is the 113, which is the number of shillings in £5 13s., that we multiply by 12, which, when done, will give us 1356 pence, to which we are to add the 6 pence, when we have 1362 pence. If we want to bring these into farthings, we multiply by 4, because 4 of the less (farthings) will make one of the greater (pence). We shall now have instead of £5 13s. 6d., just 5448 farthings. Now these farthings are just equal in value to the £5 13s. 6d., the amount of the cheque. Suppose we pass this bag of farthings to a third party, and he desires to have notes and silver for them. He ascertains how many pence the farthings will make by dividing by 4, because in going from a low name (farthings) to a high name (pence), he *divides* by 4, the number of the less contained in one of the greater; and then these pence he *divides* by 12, to bring them into shillings, because there are 12 pence (the less) in one of the greater (shillings); and these pence he will *divide* by 20 for the same reason; or he might divide by 960 at once, because there are that many farthings in a £, when he will find the sum he should receive for his farthings is £5 13s. 6d.

REDUCTION OF WEIGHTS AND MEASURES is done in precisely the same way. In going from a high name, it may be tons to lbs., *multiplying* by as many of the less as make one of the greater; but if we want to go from lbs. (the less) to tons (the greater), we must *divide*, because we go from a less to a greater by dividing the less by as many as make one of the greater.

PRACTICE, and also TARE AND TRET, now follow as a matter of course; and when once the multiplication and division of compound numbers are well understood, very little difficulty is found in giving children a thorough knowledge of these important parts of Arithmetic, seeing they are but the application of what has already been learned. In *Tare and Tret* there is nothing but the multiplication of the weight of one cask or package by the number of such casks or packages to find the total quantity, which we call the gross weight, and then the subtraction of the allowances for the weight of the cases or casks, in which the goods are contained from the gross weight, which we call the tare, with any other allowance that may be agreed on. If reference be made to what is seen taking place at any storekeepers, the whole matter is easily understood. But as the allowance is sometimes made at the rate of so many lbs. per cwt., it is necessary to have a previous knowledge of the mode of taking the *aliquot parts*, as in *Practice*.

Taking the aliquot parts is the only new thing to be taught in Practice; and if what has been said under the head of Simple Multiplication has been attended to, the whole matter will be understood in a few minutes. We assume that it is already known that 10 is a multiple of 5, and that 5 is a measure of 10: that in the same way 12 is a multiple of 6, of 4, of 3, of 2, hence these numbers are measures of 12; therefore any number that is a *measure* of another number, is the aliquot part of that of which it is a measure. As there are 2 sixes in 12, 6 is the $\frac{1}{2}$ of 12; 3 pence is the $\frac{1}{4}$ of a shilling, because there are 3 fours in 12: in the same way, 5 shillings is an aliquot part of a £; 4 shillings is the $\frac{1}{5}$ of a £, because there are 5 fours in 20 (the number of shillings in a £); but 7 shillings is *not* an aliquot part of a £, because 7 is not a measure of 20. In the same way, 2 quarters is an aliquot part of a cwt., being $\frac{1}{2}$; but 3 quarters is not an aliquot part, because 3 is not a measure of 4, or because 4 is not a multiple of 3. When this part of our work is understood, (and it ought to be understood of all weights and measures at this stage,) the children find no difficulty in understanding that to take the $\frac{1}{2}$ of any quantity is to divide by 2; to take the $\frac{1}{3}$ is to divide by 3; the $\frac{1}{4}$ by 4; &c.

(To be continued.)

SPECIMEN OF PARSING.

[Instead of our paper on Analysis, which has been unavoidably deferred, we give in this issue the following specimen of Parsing. We purpose to deal with this subject from time to time, taking up passages which embody the various difficulties that occur in our language.]

I have observed that life under certain circumstances, though supported with impatience, *is quitted* with reluctance: that *we may very soon quit it is a* powerful *remedy* against *the* impatience; but *what shall free us* from the reluctance.

I	The first pers. pron., sing., mas. or fem., nom. to the verb "have observed."
have	An aux. verb., first pers., sing., pres., ind., agreeing with its nom. "I."
observed . . .	The perfect participle of the verb—to observe.
have observed	A trans. verb, first pers., sing., perfect indic., agreeing with its nom. "I."
that	A conjunction joining two clauses.
life	A com. noun, third pers., sing., neut., nom. to "is quitted."
under	A preposition governing the noun "circumstances" in the obj. case.
though . . .	A conjunction joining clauses.
supported . .	The perf. part. of the verb to support, governed by "is" understood.
is	An aux. verb, third pers., sing., pres., ind., agreeing with its nom. "life."
quitted . . .	The perfect part. of the verb to quit.
is quitted . .	A passive verb, third pers., sing., pres., ind., agreeing with its nom. "life."
we	The first pers. pron., plu., mas. or fem., nom. to "may quit."
may	An aux. verb, first pers., plu., pres., ind., agreeing with its nom. "we."
very	An adverb qualifying the adverb "soon."
soon	An adverb qualifying the verb "may quit."
quit	A trans. verb, inf. mood. (Sign omitted.)
may quit . .	A trans. verb, first pers., plu., pres., potent., agreeing with its nom. "we."
it	A third pers. pron., sing., neut., obj., governed by trans. verb "may quit."
is	An intrans. verb, third pers., sing., pres., ind., agreeing with its nom.—the clause—"that we must so soon quit it."

a	The indef. art. prefixed to the noun "remedy."
remedy . . .	A com. noun, sing., neut., nom. after the verb "is."
the	The def. art., prefixed to the noun "impatience."
what	An adj. used as a noun, third pers., sing., neut., nom. to the verb "shall free."
shall	An aux. verb., third pers., sing. or plu., pres., ind., agreeing with its nom. "what" or (things) understood.
free	A trans. verb in the inf. mood. (Sign omitted.)
shall free . .	A trans. verb, third pers., sing. or plu., future tense, ind., agreeing with its nom. "what," or a noun equal to "thing" or "circumstances" understood.
us	The first pers. pron., plu., mas. or fem., obj., governed by trans. verb "shall free."

NOTE.—*The above is in accordance with the form of Parsing sanctioned and required by the Council of Education. The necessity of having one uniform mode of treating Grammar, both for Schools and Examination Papers, is too obvious to need comment.*

GEOLOGY.

[*Continued from page* 325.]

33. Before entering on a description of the *Primary* series of rocks, it is necessary to mention a fact applicable to the character of all stratified formations. The whole crust of the globe may be said to be constituted of *siliceous*, *argillaceous*, *calcareous*, and *carboniferous* compounds; and these compounds differ in their appearance and mode of aggregation according to the order of their occurrence; the deeper the rock, the more compact its structure; and this order of compactness in each class may be exhibited as follows:—

Siliceous.	*Argillaceous.*	*Calcareous.*	*Carboniferous.*
Sand	Alluvial Clay	Marl	Peat
Sandstone	Laminated Clay	Chalk	Lignite
Grauwacke	Slaty Shale	Limestone	Brown Coal
Quartz Rock	Clay Slate	Crystalline Marble	Common Coal.

34. The composition of the primary strata, like the granitic basis on which they rest is often modified by the presence of peculiar minerals; but felspar, mica, quartz, talc, hornblende, and chlorite constitute the greater portion of their mass. The characteristic difference between granite and gneiss (the oldest of the primary strata) is that in gneiss the angles and faces of its crystals are broken and waterworn, and a stratified structure is plainly marked in general. Above the gneiss rocks are placed the mica and talc schist strata. These have a more distinctly stratified structure, and bear plain evidence in their texture of having been formed by the action of water.

35. The gneiss and mica schists are eminently siliceous; but in the uppermost of the primary rocks the argillaceous compounds prevail. The clay-slate system presents a vast thickness of fine grained fissile argillaceous rock of considerable hardness, varying in colour and of glistening appearance. The prevalent colours

of slate are black, green, blueish, purplish, and mottled, some kinds being hard and splintery, others soft and perishable.

36. The above order is one in which it is convenient to describe the primary rocks; but it must not be supposed that they are always to be found in this order. On the contrary, it may be said that no order of succession can be depended upon, and even stratification is sometimes not very distinctly marked; and the strata, when appearing plainly, thicken and grow thin, and disappear in a very capricious manner.

37. The primary strata above briefly described are sometimes called *metamorphic*, by which is meant that these rocks have undergone a metamorphosis, or change, in their sedimentary character, so as frequently to be mistaken for true igneous or granitic rocks. Besides gneiss, mica, and clay-slate, this division contains metamorphic limestone, hornblendic slate, chlorite slate, talcose slate, actynolite slate; and serpentine, although classed with the igneous rocks may also be considered as belonging to this series. Metallic veins are often found running through their strata.

38. The primary series of rocks are spread over a large extent of the earth's surface. They occur abundantly in the Highlands and islands of Scotland, in the north of Ireland, along the flanks of the Pyrenees, the Alps, and the great mountain chains of Northern Europe; in Asia, in Ceylon, in Africa, and in America, particularly in the Brazils and the United States. In this country, it may be remarked, mica slate is found at Mount Everndon and the head waters of the Lachlan and Murrumbidgee, pass through primitive rocks. Near the Bellenger the hills are of mica slate and porphyry. Clay slate is found in the ranges near Warwick, and crystalline sandstone and metamorphic slate near Ipswich. There is a substratum of chlorite slate under the Liverpool Plains. The Solitary Isles and neighbouring coast are partly of chlorite slate; and high rocks of mica slate flank the Bellenger River.

TRANSITION PERIOD.

39. The term *transition* has been applied to the rocks of this series as not only indicating a change in the causes of formation, but also implying that the world was then passing from an uninhabitable to an inhabitable state. Under this division are included three distinct kinds of rocks:—(1) Grauwacke, Sandy Slates; (2) Silurian Limestones, &c.; (3) Old Red Sandstone.

40. The composition of the grauwacke system is much more varied and irregular than that of the clay slate. As sandstone may be said to be consolidated sand, and conglomerate consolidated gravel; so may grauwacke be defined as an aggregate of of clay, grains of quartz, felspar, and mica, with fragments of jasper and other minerals. The cementing material is clay, which often constitutes the greater portion of the rock; and in such cases the texture differs little from that of clay slate. But in many strata fragmentary ingredients prevail, so that the texture varies in fineness from that of a coarse slate to a conglomerate of pebbles more than an inch in diameter. Like clay

slate, these rocks are of various degrees of hardness; though, generally speaking, they may be regarded as a highly indurated conglomerate. Beds of concretionary limestone are sometimes found associated with the slates and grauwackes.

41. In the Silurian system limestones occur more frequently, so that an intimate blending of argillaceous and calcareous compounds may be said to prevail. Until recently this system was considered as a portion of the grauwacke group, and as marking its passage into the gray micaceous beds of the old red sandstone. Merely looking at cabinet specimens of these rocks, it would be impossible to distinguish between many of the grauwacke and silurian series; but taking them in the mass they are easily recognised.

42. The composition of the old red sandstone, which has next to be considered, is chiefly arenaceous, presenting a succession of sandstones alternating with subordinate layers of sandy shale. The sandstones pass in fineness from close-grained fissile flags to thick beds of conglomerate, the latter being composed of pebbles from the size of a hazelnut to that of a man's head. The whole system is tinged with the peroxide of iron, the colours ranging from a rusty grey to brick red; and from a mottled purple and fawn shade to a cream yellow. The term "old" attached to this system is used to distinguish it from another series of secondary formation called the "new" red sandstone.

43. The minerals of commerce derived from the gneiss and mica schist systems are not numerous. Veins of some metals, as tin and copper, traverse them; the limestones produce valuable marbles, but none of the other rocks are of use for architectural purposes. Potstone, the *lapis ollaris* of the ancients, of which very pretty jars and vases are manufactured, is found in the stea schist. Amianthus, or flexible asbestos, occurs among the mica schists, and is sometimes used in the manufacture of fabrics which are indestructible by fire, or as in the United States, for lampwicks. *Vide* page 30 of the *Australian Journal of Education* for a notice of this rock. The notice is taken from the *Orange Guardian* newspaper. The garnet and other precious stones are also found among these rocks.

44. The uses of the minerals of the clay-slate, grauwacke, and Silurian systems are numerous and important. From the clay-slate are derived roofing-slate, writing-slate, and a variety of slates for ornamental and other purposes. Flag-stones and paving-stones are obtained from the grauwacke and silurian beds, and several ornamental marbles from the limestones of the same systems. But the mere rock minerals are of little value in comparison with the metallic veins found in these strata. Tin, lead, copper, silver, gold and other metals are found abundantly in the veins which traverse the clay-slate; indeed they form in Britain the principal metalliferous rocks, excepting the lead and ironstone of the carboniferous system.

45. The old red sandstone system produces comparatively few minerals of commerce. From the lower groups of beds are obtained those thin schists of gray micaceous sandstone so

generally employed in foot-pavements, in roofing, and in flooring; hence the terms tile-stone and flag-stone. From the superior red and yellow groups, building stones of various quality are obtained.

46. The rocks of the transition period are spread over an extent of country indicated by the mention of the principal mountain ranges of the world, from whose sides and flanks their strata slope away for many leagues on either side. All the strata of the old red sandstone system are widely developed in Scotland, and the lower portion between England and Wales, in Ireland, and Germany. From Sdyney to the Mittagong Range and round by the Blue Mountains extends a sandstone formation 10,000 square miles in extent; but this is probably the new red sandstone. At Port Hacking the sandstone forms fine terraces. The Port Jackson cliffs are 200 feet high. The base of the Maneroo Plain is of slate. On the Delegete twenty-four alternations of fossil limestone and slate occur in a thickness of seven feet. The Delegete Mountains are of slate. At the mouth of the Panbula a sandstone older than that of Sdyney rests upon a red slate. The same slate with veins of porphyry may be seen at Twofold Bay. At Boyd Town and Cape Howe is a good building freestone. The Blue Mountains are of slate with frequent fields of other rocks. The precipitous sandstone side of the Grose is 1500 feet deep. Canobolas, or "Old Man Mountain," is surrounded by slate. The crystalline sandstone, "Gibraltar Rock," is near Dubbo, on the Macquarie. The Darling Plains are of sandstone with isolated sandstone ridges. Sandstone forms the stratum of the flat lands towards the Murray.

(To be continued.) GE.

OBJECT LESSON.

TO A 3RD AND 2ND CLASS.

KEROSENE OIL.

Aim: To Cultivate Observation.

HEADS OF LESSON.

I.—What it is and whence obtained.
II.—Preparation.
III.—Properties.
IV.—Uses.

I.

MATTER.	METHOD.
Kerosene oil is a mineral oil, and is obtained from a mineral called Kerosene Shale, which is found in large quantities in our own district (Illawarra), and at Hartley. Kerosene oil is ob-	Hand round the class a small phial containing some of the oil; ask the children to smell it and name it; get them to mention the different kinds of oils—mineral—vegetable—animal. Ask to which of these Kerosene oil belongs. Pro-

tained in America from wells or springs.

duce a piece of shale, and let the pupils examine it. This will interest them, and assist in keeping up the attention of the class.

Get children to point out the places on the map. Recapitulate and write down blackboard notes.

II.

The shale is obtained by digging a drive or hole in the side of the mountain. When the bed of shale is reached, it is split into large flakes or slabs with mauls and wedges, the only way of procuring it. These large slabs, which are often as flat and even as the top of a table, are brought out of the mine on small trucks or trollies, which run along a tramway laid in the mine and extending some distance outside to a rough shed, in which several men are engaged splitting the large slabs into smaller pieces of about two pounds weight. It is now ready for the retorts. The smaller pieces are placed on a trolly and taken along a tramway to the retorts, which are built over a furnace, and hold about one and a half hundred weight each. When they are filled, a top is screwed tightly on them to prevent the ingress of air : the furnace is now lighted, and the intense heat soon renders the retorts and their contents red hot. The heat, which is applied for about six hours, causes the oil in the shale to evaporate and pass through iron tubes attached to the ends of the retorts and connected with a general pipe, that passes, in the shape of a worm, through a tank of cold water, and leads to an empty tank, into which is discharged a thick dirty-yellowish liquid, that has been condensed in its passage through the pipe. This is crude oil, and is similar to the

Children to be asked how coal is obtained.—(Most of the children will remember this from a former lesson on coal). Tell them the shale is procured in the same manner, by digging a hole or drive in the side of the mountain. A rough diagram should be drawn on the blackboard, shewing the mouth of the mine and the tramway leading into it. All the rest under this heading must be told the children—a question now and then given to keep up their attention. The following words should be explained :—

retorts,

tramway,

ingress,

applied,

evaporate,

discharged,

condensed,

crude, similar,

American oil when first obtained from the wells. It is pumped into a still and distilled. After undergoing this operation, it is put into large round tanks, and chemicals mixed with it: the whole is stirred violently by means of a wooden wheel, somewhat resembling the paddle-wheels of a steamer: this wheel is made to revolve rapidly by an engine.	still. A rough diagram might be drawn on the blackboard, and explain concisely its use. chemicals, revolve. Any other words that the teacher deems necessary may be enlarged, in order that the children may thoroughly understand the lesson. A question here and there will convince the teacher as to whether the children are in doubt about the meaning of a word.
Having been stirred a sufficient length of time, it is allowed to subside, the impurities sink to the bottom, and are let out through a tap attached to the bottom of the tank. The oil, which is now fit for use, is pumped into another tank, from which it is drawn and put into square tins: these tins are placed in wooden cases and sold.	
About 1,200 gallons of pure oil are manufactured a week.	manufactured,
During the process of distillation, a sediment is left at the bottom of the still, resembling tar, but of a more unctuous nature—it is used for lubricating purposes.	sediment, unctuous, lubricating. Recapitulate and write down blackboard notes.

III.

Kerosene oil is so very penetrating that it will leak through an aperture too small for water to pass through. It is extremely volatile, emits an unpleasant odour, and is very inflammable.	Most of this may be drawn from the children by questioning. penetrating, aperture, volatile, emits, odour, inflammable to be enlarged. Recapitulate and write down blackboard notes.

IV.

It is used for giving light; and, being very volatile, is used for mixing with paint.	To be drawn from children by questioning. Recapitulate and write down blackboard notes.

Hood's "Song of the Shirt" was begun and so far proceeded with under the title of "Tale of a Shirt," before the ludicrous equivocate struck the intense mind of the author! If perpetuated, it is easy to see how such a step might have jarred with the pathos and potent effect of this admirable appeal to every humane feeling.

DRAWING: ITS ADVANTAGES.

Drawing has been generally esteemed an accomplishment indispensable in a young lady's education, but to the other sex its acquisition has been deemed a useless waste of time, and being charged as "an extra" in the school bills, parents rather avoided than encouraged it. It was also considered impossible of attainment unless the pupil possessed some inborn faculty or genius. This may be considered necessary for an *Artist*, but the simple Art of Drawing is as purely mechanical as that of writing, and can be as easily attained; we do not inquire if a child has any peculiar genius for writing or music before they are taught, and it would be as ridiculous to expect that all who learn to write would become Poets as that all who learn to draw should become *Artists*. The kind of drawing formerly taught, was not based upon any principles of utility, but merely (as a friend of mine happily designated it) as "making pretty pigsties," so that sensible parents could see no advantages to be obtained from it. The present generation has witnessed great changes and improvements in the methods of imparting instruction, and the same has taken place with regard to drawing, which is now recognised as a necessary element of education. The modern system aims at training the eye (which in its natural state is imperfect,) to a true perception of form and a just estimate of proportion, by a course, of which geometrical form is the basis.

A child will more easily learn to draw a square than it could a capital letter in writing, and most children have a natural taste for drawing, and have practised it in a rude manner long before they have learned to write; the innate imitative faculty with which all are endowed induces this, and which can be readily cultivated by a course of instruction. I have thus briefly shown that it is as easy to learn to draw as to write, and that no particular genius is required in either case. I will now endeavour to show some of the advantages to be derived from drawing.

The public generally do not recognise the fact, that to the Art of Drawing they are indebted for all the information obtained by means of the illustrated literature of the present day. Almost every work, from the child's first book to the most scientific, is now furnished with illustrations conveying that precise kind of information, which words would fail to impart. The Illustrated News alone makes us familiar with people, places, and events, in all parts of the world.

To the Arts of Drawing and Design we are indebted also for the pleasures derived from the beautiful patterns in carpets, wall papers, the decoration of our rooms, articles of vertù, furniture, &c., by which we are surrounded. And it is a fact that the value of these does not so much depend upon the cost of the material of which they are made, as upon the beauty or excellence of the design.

Drawing gives the power of expressing *things*, writing only expresses *ideas*. Now, different people have different ideas of the same thing; so if we had the written expression of these ideas we could not form a correct conception of the *thing*, whereas a very rude drawing would at once impress us with a true perception.

The most careful and scientific description of an object, (in Natural History for instance,) would not convey to the mind a correct notion of what it was like, whilst a drawing would most clearly.

Drawing may therefore be termed *the language of form*. This language has this great advantage over any other, dead, or living, that it is intelligible to all the human race, to the savage, as well as the most highly educated. It is a language that needs no translation, "it is known and read of all men." It is also concise, giving sometimes by a few touches of the pencil, a clearer notion of a *thing* than elaborately written pages could convey; it is a kind of graphic short-hand, presenting to the eye the characteristic features and peculiarities of an object which no written description could; and like its sister art *Music*, it is a universal language. All other languages differ one from another, and it takes much time and trouble to learn even one of them, but this is the same all over the world, for the man that can draw can express himself intelligibly, without the trouble of learning a new language.

Drawing is useful to all, but to Architects, Surveyors, Mechanics and Artizans in many trades, it is indispensable.

The Architect must make Drawings and Plans of his intended Buildings, representing all their parts, and from these the Mason, Carpenter, and Builder, complete their work.

The Surveyor or Civil Engineer after taking his measurements, levels &c., makes Maps or Drawings of intended Works.

The Mechanical Engineer also makes Drawings, so that the workmen can see exactly what they have to do, and without them they could do nothing.

The Cabinet Maker, Coach Builder, and every other manufacturer, if they are unable to draw themselves, must procure drawings to be made as a guide to the workmen. And what an advantage drawing must be to the master in any of these occupations, to be able to embody the results of his experience, or the fancies of his mind, in his own drawings, and thus present to his customers new and choice designs, without copying or borrowing from others.

To the Artizan it is indispensable, or he could not understand the drawings he has to work from. Besides, the habit of careful examination necessary in drawing, so trains the eye to a correct perception of form, and a just estimate of proportion, that any error, however slight in his work, would at once be detected, which would pass unnoticed by the uneducated eye.

In an educational sense, drawing has been found to be useful in the acquirement of other branches of learning, as *Geography*, *Geometry*, and *Writing;* and the course of study necessary to acquire correctness of eye and precision in delineating form, has a further valuable bearing on general education, since it greatly stimulates and improves the perceptive faculties, and induces correctness of general observation, and clearer and more definite knowledge of things: for as it is impossible for the pupil to draw any object correctly without a careful and minute examination of its structure, and its relations to other objects, it must follow that his power of observation and comparison is strengthened, and becomes more precise, and his perceptions sharpened and rendered more inquisitive; so that facts often overlooked by others are brought palpably before his mind.

Drawing gives to children a better use of their hands, as well as their eyes. It causes them to notice objects they never noticed before. It induces habits of neatness and order, which extends to other things; and it affords endless amusement to them in their rude imitations of natural objects.

We are all children of imitation: it is one of the most powerful faculties we possess; for by it we learn our first lessons. The infant begins to imitate sounds, the sounds of words, then actions and manners,—and how correctly are they imitated!

By this faculty all the Arts we see become our own, and in its pursuit we find endless and innocent gratification. De Quincy says "Imitation would almost of itself afford a means for a full exposition of *man*, both in his natural and social condition. Indeed, what is there in his works, his tastes, his habits, that cannot be referred to this faculty? It is truly characteristic of *man*, among all creatures it belongs exclusively to him, and he may therefore be properly termed the Imitative Animal." It is therefore clear, that as every one possesses this imitative faculty, and as drawing is strictly an imitative art, all must be capable of acquiring a certain degree of proficiency by practice, aided by proper instruction.

J. FOWLES.

HOLIDAYS.

[FROM A CORRESPONDENT.]

WHEN Hamlet asks his good friend, Horatio, "What make you from Wittenberg?" the reply is, "A truant disposition, good my lord;" to which Hamlet rejoins, "I would not hear your enemy say so." But, begging Hamlet's pardon, a truant disposition, in its own way and proper season, is good, both for Horatios and all of us. It is all very well to be perpetually resuming our studies, as at Dr. Blimber's, for example; but we are apt, after too long a spell at it, to get into the condition of poor Briggs, whose head was ready to split, and who would have wished himself dead if it hadn't been for his mother, and a blackbird he had at home.

You look out at your classroom window, as it is getting towards the end of the year; your boys, perhaps, hammering their poor brains at long division, and wondering how in the world they are to find out how many times it will go; and you look at the hills which have hemmed you in since last Christmas: and you give them distinct notice, in mental apostrophe, that in a very short time now you'll go over them, at any rate. Happy thought! "To-morrow," (only it isn't to-morrow by a long way), "to-morrow, to fresh fields and pastures new."

Sancho Panza, you will remember, after a day of hard toil, and I don't know how many fearful battles, tumbles into bed exclaiming, "A blessing on his head who first invented sleep!" But what immortal praises belong to him who first invented holidays! Who was the philanthropic individual? You may ransack Beckman's History of Inventions throughout; you may go over in your mind all ancient and modern history; but you nowhere find him even mentioned. Was he the grand discoverer of the truth, that "all work and no play makes Jack a dull boy?"

What a mercy it is that we are "beings of such large discourse, looking before and after;" looking, I mean, forward to the next holiday, and back upon so many pleasant ones gone by. What travellers we have been to be sure! Why, it would take a panorama hundreds of yards in length to depict the succession of our beautiful recollections. Let us see; which begins? The first, I remember, was a lovely town on the banks of the Macquarie—swelling hills over yonder where I used to gallop wildly, in pursuit of a Kangaroo or an Emu. Ah well! how long it is since that happy time. And yet, not so happy either; for like poor Briggs and his blackbird, I had my *amari aliquid*, and it was as *real* an anxiety as I have ever felt since; and all about some little domestic matter at home. But, for fear of becoming too autobiographical, I will let Memory unrol her canvas of holiday scenes in silence; and while I sit meditating over them, do you, dear reader, set the machinery of your own memory to work. Where have *you* been for ever so many holidays?

It is a real property—this remembrance of lovely scenery. Fortune may shake her swift wings with you as with others, but she can never carry away with her as she flies that glorious sunset you saw from Wyagden, or that splendid view of mountain and valley you had from Mt. Victoria; nor the tumbling sea that thunders a never-ending chorus on the rocks at Nobby's. All these and scores of others, are your own "things of beauty," and "joys for ever,"

But *en avant;* where shall we go next? Well, for my part, everything turning out suitably, I am for a series of trudges; or, if you will, little pedestrian tours. Let us hope that wherever we go we may carry with us these good things—stout legs, stout hearts, and fine weather. It is a wretched thing to be cooped up (it was once literally my own case,) for a whole week in an out-of-the-way farm house, perhaps with nothing to do but wait for the everlasting rain to cease, and to be driven to improve one's mind on Buchan's Domestic Medicine. It is enough to force one in mere despair to write poetry or smoke, if it were possible *ex fumo dare lucem* to the bleak outlook. But in decent weather a trudge on foot is a delightful thing. Black care we all know, is very fond of sticking to us wherever we go, and manages—saith the poet—"to sit behind the fastest horseman;" but she is a poor pedestrian; four miles an hour is too much for her; and she lets you go on without her. I only hope she won't return home—like your dog that tires of following you—and be found awaiting you there.

But a visionary hand—that of Mr. Editor, rigorous as Rhadamanthus in regard to space—paralyzes the pen; the callow thoughts, too apt, I will confess, to take up a deal of room when they are fledged and spread their wings in sentences and paragraphs, die smothered in their cerebral nest; with regrets, such as magnanimous deeds unaccomplished cannot but inspire, they yield to inevitable fate and are

(Not to be continued.)

HINTS FOR STUDENTS.

Directions for forming a Style.

The first direction which I give for this purpose, is, to study clear ideas on the subject concerning which we are to write or speak. This is a direction which may at first appear to have small relation to Style. Its relation to it, however, is extremely close. The foundation of all good Style is good sense, accompanied with a lively imagination. The style and thoughts of a writer are so intimately connected, that, as I have several times hinted, it is frequently hard to distinguish them. Wherever the impressions of things upon our minds are faint and indistinct, or perplexed and confused, our Style in treating of such things will infallibly be so too. Whereas, what we conceive clearly and feel strongly, we will naturally express with clearness and with strength. This, then, we may be assured, is a capital rule as to Style, think closely of the subject, till we have obtained a full and distinct view of the matter which we are to clothe in words, till we become warm and interested in it; then, and not till then, shall we find expression begin to flow. Generally speaking, the best and most proper expressions are those which a clear view of the subject suggests, without much labour or enquiry after them.

Blair.

On Purity and Propriety.

Purity and Propriety of Language are often used inciscriminately for each other; and, indeed, they are very nearly allied. A distinction, however, obtains between them. Purity is the use of such words and such constructions as belong to the idiom of the Language which we speak, in opposition to words and phrases that are imported from other Languages, or that are obsolete, or new coined, or used without proper authority. Propriety is the selection of such words in the Language as the best and most established usage has appropriated to those ideas which we intend to express by them. It implies the correct and happy application of them, according to that usage, in opposition to vulgarisms, or low expressions; and to words and phrases which would be less significant of the ideas that we mean to convey.

Style may be pure, that is, it may all be strictly English, without Scotticisms, or Gallicisms, or ungrammatical, irregular expressions of any kind, and may, nevertheless, be deficient in propriety. The words may be ill-chosen, not adapted to the subject, nor fully expressive of the author's sense. He has taken all his words and phrases from the general mass of English Language, but he has made his selection among these words unhappily. Whereas Style cannot be proper without being also pure; and where both Purity and Propriety meet, besides making Style perspicuous, they also render it graceful. There is no standard, either of Purity or of Propriety, but the practice of the best writers and speakers in the country.

The introduction of foreign and learned words, unless where necessity requires them, should always be avoided. Barren languages may need such assistances; but ours is not one of these. Dean Swift, one of our most correct writers, valued himself much on using no words but such as were of native growth; and his Language may indeed be considered as a standard of the strictest Purity and Propriety in the choice of words. At present we seem to be departing from this standard. A multitude of Latin words have, of late, been poured in upon us. On some occasions they give an appearance of elevation and dignity to Style; but often, also, they render it stiff and forced; and, in general, a plain native Style, as it is more intelligible to all readers, so, by a proper management of words, it may be made equally strong and expressive with this latinised English.

Ibid.

On the Use and Importance of Precision.

The use and importance of Precision may be deduced from the nature of the human mind. It never can view, clearly and distinctly, above one object at a time. If it must look at two or three together, especially objects among which there is resemblance or connection, it finds itself coufused and embarrassed. It cannot clearly perceive in what they agree, and in what they differ. Thus, were any object, suppose some animal, to be presented to me, of whose structure I wanted to form a distinct notion, I would desire all its trappings to be taken off, I would require it to be brought before me by itself, and to stand alone, that there might be nothing to distract my attention. The same is the case with words. If, when you would inform me of your meaning, you also tell me more than what conveys it; if you join foreign circumstances to the principal object; if, by unnecessarily varying the expression, you shift the point of view, and make me see sometimes the object itself, and sometimes another thing that is connected with it; you thereby oblige me to look on several objects at once, and I lose sight of the principal. You load the animal you are showing me with so many trappings and collars, and bring so many of the same species before me, somewhat resembling, and yet somewhat differing, that I see none of them distinctly.

This forms what is called a Loose Style, and is the proper opposite to Precision. It generally arises from using a superfluity of words. Feeble writers employ a multitude of words, to make themselves understood, as they think, more distinctly; and they only confound the reader. They are sensible of not having caught the precise expression to convey what they would signify; they do not, indeed, conceive their own meaning very precisely themselves; and therefore help it out as they can by this and the other word, which may, as they suppose, supply the defect, and bring you somewhat nearer to their idea; they are always going about it, and about it, but never just hit the thing. The image, as they set it before you, is always seen double; and no double image is distinct. When an author tells me of his hero's *courage* in the day of battle, the expression is precise, and I understand it fully. But if, from the desire of multiplying words, he will needs praise his *courage* and *fortitude*: at the moment he joins these words together, my idea begins to waver. He means to express one quality more strongly; but he is, in truth, expressing two. *Courage* resists dangers, *fortitude* supports pain. The occasion of exerting each of these qualities is different; and being led to think of both together, when only one of them should be in my view, my view is rendered unsteady, and my conception of the object indistinct.

From what I have said, it appears that an author may, in a qualified sense, be perspicuous, while yet he is far from being precise. He uses proper words and proper arrangement; he gives you the idea as clear as he conceives it himself; and so far he is perspicuous; but the ideas are not very clear in his own mind, they are loose and general, and therefore cannot be expressed with Precision. All subjects do not equally require Precision. It is sufficient on many occasions that we have a general view of the meaning. The subject, perhaps, is of the known and familiar kind; and we are in no hazard of mistaking the sense of the author, though every word which he uses be not precise and exact.

Ibid.

A Habit of Industry recommended.

Allow me to recommend, not only the attainment of useful knowledge, but a habit of application and industry. Without this, it is impossible to excel in anything. We must not imagine that it is by a sort of mushroom growth that one can rise to be a distinguished pleader, or preacher, or speaker in any assembly. It is not by starts of application, or by a few years preparation of study afterwards discontinued, that eminence can be attained. No; it can be attained only by means of regular industry, grown up into a habit, and ready to be exerted on every occasion that calls for industry. This is the fixed law of our nature; and he must have a very high opinion of his own genius indeed, that can believe himself an exception to it. A very wise law of our nature it is; for industry is in truth the great "Condimentum," the seasoning of every pleasure; without which life is doomed to languish. Nothing is so great an enemy both to honourable attainments, and to the real, to the brisk, and spirited enjoyment of life, as that relaxed state of mind which arises from indolence and dissipation. One that is destined to excel in any art, especially in the arts of speaking and writing, will be known by this more than by any other mark whatever, an enthusiasm for that art ; an enthusiasm, which, firing his mind with the object he has in view, will dispose him to relish every labour which the means require. It was this that characterised the great men of antiquity ; it is this which must distinguish the moderns who would tread in their steps. This honourable enthusiasm it is highly necessary for such as are studying oratory to cultivate. If youth wants it, manhood will flag miserably.

Ibid.

MAMMALIA OF AUSTRALIA.

No. I.

The present essay embodies the substance of a series of Object Lessons, and is the result of personal experience, local inquiry, and reference to works of authority. It is drawn forth by a paragraph in the Journal of Education, which, having hitherto met with no response, the subject is taken up till some more competent writer shall undertake the task. This is not said to deprecate criticism, (for the correction of error will be acknowledged with thanks), nor in affected modesty ; but in the belief that each should contribute in his degree, and not withhold what knowledge he possesses because the fund is not greater.

The class Mammalia embraces an extensive range ; seeking their food on, and beneath the earth, in the air and the waters. The word is derived from the Latin Mamma, a teat, and some characteristics are common to the whole race, viz., all are vertebrate, or possess a back-bone :—

1. They breathe air by lungs.
2. They circulate warm red blood by means of a heart, divided into four compartments, two for the admission, and two for the expulsion of the blood, called auricles and ventricles.
3. The young are born alive,
4. and are fed by milk which they suck from the teat.

Another characteristic is that all, (with the exception of the Manatee and the Dugong,) have seven cervical vertebræ, or joints in the neck, from the stately Giraffe to the Whale ; in whom they are scarce thicker than a sheet of paper.

This not being a scientific treatise, the broadest and most marked distinction of classes will alone be noticed ; a single member of each described, as a type of the species, and technicalities dispensed with as far as is compatible with perspicuity.

The broadest distinctions, which naturalists have adopted as a basis of classification, are founded on peculiarities of structure, which indicate the habits and diet of the various species. For example :—

Distinguished and classified by—

Hands absent	Bimana, (two handed,) *Man.* Quadrumana, (four handed,) *Monkey.*
Feet absent	Quadruped, (four footed.) Ungulate, (hoofed,) *Ox, Deer, &c.* Macropidæ, Gr., (makros, *long*, pous, *a foot*—long footed,) *Kangaroo.*
Teeth	Rodentia, (gnawers,) *Rat, Beaver.* Edentata, (toothless,) *Platypus, Echidna.*
Diet	Carnivora, (flesh eaters.) Herbivora, (vegetable eaters.)
absent	Canine, *Dog, Fox, Wolf.* Feline, *Lion, Tiger, Cat.*

Skin absent { Pachydermata, (thick shinned,) *Horse*, *Elephant.*

Another very remarkable class is the Cheiroptera, (wing fingered) *Bats*, whose anterior limbs are immensely elongated, and connected by a leathery membrane.

From the above it may be seen that absenteeism is a marked feature, those so distinguished possessing no representatives in Australia.

It is to be regretted that our knowledge of the subject is so incomplete, but the cause is not far to seek. In a recently colonized and imperfectly explored region ministering to physical wants is paramount to all other considerations, and scientific research must give way to present necessity. Enthusiastic naturalists like Wilson, Audribon and Gould, arise but at long intervals; and only a high stage of civilization, and abundant leisure for minute observation, can produce a Natural History of Selborne.

The Zoological Catalogue of Australia is more restricted than that of any other portion of the earth's surface of equal area. Of fifty-two species of indigenous quadrupeds forty are peculiar to Australia, and of the total number forty-three are Marsupial, or pouched.

The first circumstance that strikes the observer is, deficiency both in number and species: the second, the marked difference in structure to recognized races; and the third, the adherence to a primitive type.

While the prairies of North America teem with the Bison race, and millions of Antelope haunt the watercourses and river valleys of South Africa, our broad plains and upland downs are the home only of the Kangaroo and Wild Dog.

That this did not arise from inability to maintain them is proved by the vast herds of cattle which civilization has now implanted there. But if deficient in the useful, an equal scarcity may be observed of the noxious. No Royal Tiger, deadly as beautiful, haunts our forests and depopulates our villages; and the farmer may drive his bullocks to water of an evening, fearless of the rush of a Lion crouching in the long grass by the river bank. No herds of the wild Elephant or savage Rhinoceros make havoc of his maize paddocks, or night-prowling hippopotamus leaves the river depths to revel in his green barley.

The second point of difference, and that which appears to have excited the greatest surprise, is the predominance of the marsupial race. This peculiarity of structure hardly seems to exist anywhere else, except in Melanesia and Madagascar, from which geologists have inferred some former connection, even to the extent of their forming one vast continent. Another analogy, as also with New Zealand, is the presence of the brevi-pennate (short winged,) birds, the Dodo, the Emu, and the Moa. Leaving such theories to their supporters and turning to the last peculiarity, fossils—which have been aptly termed "Medals of Creation,"—of animals now only existing within the tropics, are exhumed from islands of the Arctic Ocean; and the Caves of Kirkdale attest that the Hyena and Rhinoceros were ancient inhabitants of Britain; while all the hitherto discovered fossils of this country point to the fact that its former tenants were marsupials and short-winged birds; types of existing races, but on a more gigantic scale.

The most characteristic animals of Australia are the Macropidæ (long footed), Phalangista (fingered), Cheiroptera (wing fingered), and Edentate (tothless), respectively represented by the Kangaroo, Opossum, Flying Fox, and Platypus, and in pursuance of the original intention one or two examples of each race will be selected and described as types of a class.—Commencing with the Kangaroo, the largest indigenous quadruped and the most perfect example of the marsupials, besides a number of smaller congenors; the two principal varieties are the Kangaroo or Koorah, and a smaller kind called the Wallaby. Their food is entirely vegetable, and they associate in large herds of from 50 to 100. The height of a full grown male is about 5 feet 6 inches when sitting on his haunches; the face is somewhat like a sheep with a mild and gentle expression, the eye full and bright, the ears upright, resembling those of a rabbit in form, but pointed forward. The fore legs are very short with five claws, the hinder very long and muscular, possessing three claws, the middle one very long, and a most formidable weapon of defence. The tail is remakably thick and long, acting as a third leg, and aiding the enormous bounds which the animla makes: for though possessing four legs, the two hinder ones only are used for progression, for which they are peculiarly addapted. The thigh bone is shaped like the scapula (shoulder blade) of other animals, with a high ridge deeply grooved for the insertion of the powerful muscles by whose spring he is enabled to clear 25 feet at one leap. The second joint is very long, and is little else than bone and tendon, running into the foot, which forms the third joint, about 12 or 18 inches long; hence the name Macropidæ, (longfooted). The general color is mouse brown on the back, but lighter towards the belly and flank, the hair, fine, soft, and close, and in the breeding season, approaching chesnut in color.

The male Kangaroo is called in bush English, an "old man," and the female a "flying doe," the youthful heir, irrespective of sex, being styled "joey."

When born, the young one (for one only is produced at a birth,) is not more than an inch long, and is semi-transparent. It is at once transferred to the marsupium, or pouch, which is a sort of fold of the skin of the abdomen. Here it attaches itself to a teat, and these are as curious as any part of the structure, resembling the finger of a glove, and capable of being drawn out by the little suckling. Here our young hopeful remains till he is eight months old, when he ventures forth to the joys and sorrows of this outer world, retiring however, at the approach of danger, or when in need of sustenance, and perhaps is not finally discharged till he attains the cumbrous weight of 8 or 10 pounds, and a juvenile brother or sister is installed in his animated cradle. When pursued by the hunter, the mother, to facilitate escape, will, when hard pressed, cast out the young, and this in bush slang is called "dinging the joey." The adult male commonly weighs from 150 to 200 pounds, and is hunted for the hide, which makes an exceedingly flexible leather, or for the hams, which, when salted are an article of commerce.

Kangaroos associate in large companies, and each drove has its regular camping ground, usually on some lightly timbered rise, and well-trodden paths conduct from one path to another. These have been mistaken by strayed travellers for pathways to settlement, and a common phrase in speaking of some one who seeks an unattainable object, is, that "he is on the wallaby track." They feed principally in the morning and evening, lying by day in damp scrubby gullies during the heat of summer, and in winter on dry sandy rises. Like sheep, they can go a long time without water; the flesh is dark and lean, like poor mutton; the tail and hind quarters alone are used as articles of food. Since the attempted extirpation by strychnine of their great enemy the Dingo, the Kangaroos have increased enormously, so that their destruction on out-stations has become a matter of necessity.

Though harmless and inoffensive when unmolested, the Kangaroo has his pugnacious moments, and desperate battles are fought at the breeding season, and many a scarred and mutilated hound bears testimony to the power of his keen bayonet shaped hind claw, which will rip up a dog as surely as the tusk of a wild boar. When pursued they take to water, and if approached by a dog, will seize and hold it beneath till drowned, or it is itself overpowered.

Professor Owen accounts for the existence of marsupials in this country, and without supporting or disputing it, the theory is sufficiently plausible. As nothing is made in vain, and every animal is adapted to the home in which it is to live, and the life it has to lead, in a land so subject to drought, where long continued dry weather and bush fires may leave a blackened desert, the herbivorous animals cannot resort to river valleys as the antelope of South Africa, or the buffalo of North America; the absence of perennial streams and drying of waterholes, leaving hundreds of miles of country devoid of surface water, if the parent could traverse the distance between the desert and a better grassed country, the helpless young would perish on the way, and to obviate this catastrophe the mother has been provided with this singular mode of conveyance.

FIVE DOCK.

It was a good retort made in reply to the argument used by a champion of public schools, that Byron was a Harrow boy. "He was, and Burns was a ploughboy."

RIVER BASINS.

The river basins of North America may be described under four heads, according to the slope of each. All the rivers belong to one or other of the four great oceanic basins, viz :—those inclining to the Atlantic, to the American Mediterranean, *i.e*, the Gulf of Mexico and Caribbean Sea, to the Pacific, and to the Arctic Ocean. Beginning in the north we must notice the Basin of the Colville, 850 m. long, and having an area of perhaps 100,000 sq. m. Then comes the Mackenzie, 200 m. in length, with an area of 441,600 sq. m. ; the Coppermine, 300 m. long, area unknown ; Back or Great Fish River, 420 m. long, area unknown ; the Churchill, 1300 m. long, area 73,600 ; Nelson and Saskatchawan, 1000 m. long, area 360,000 sq. m. ; Albany 400 m. long, area 52,800 sq. m.

In the above enumeration of basins Hudson's Bay is reckoned an arm of the Arctic Ocean. In this immense region, lying between the Rocky Mountains on the west, and Hudson's Bay on the east, the Arctic Ocean on the north, and the United States on the south, the principal town is Fort York, on the banks of Hayes River, about five miles above its entrance into Hudson's Bay, and at its confluence with the Nelson. The area of this country, called Rupert's Land, is not precisely known, but may be estimated at 2,640,000 sq. m., or about eight times the size of N. S. W. The surface is generally low and level, partly sloping towards the Arctic Ocean, and partly towards Hudson's and James' Bays. The whole of this territory may be divided into three parts, corresponding to three distinct natural characters ; and these are subdivided by the Hudson's Bay Company into twenty districts, each containing one or more factories, or fur-trading establishments.

If a line be drawn westward from the shore of Hudson's Bay at lat. 62 degs., through Northlined Lake and Lake Athabasca, thence along Slave River to Great Slave Lake, and thence down the Mackenzie River to the Arctic Ocean ; and another line be drawn from Lake Athabasca south through Lakes Wollaston, Deer, Winnipeg and Lake of the Woods, to Lake Superior, we shall have the boundaries of the three regions mentioned above. The region lying to the N.E. of the first line may be called the *Barren Region*, as little or no vegetation is seen except lichens, mosses, and a few stunted plants. The region lying round the south and west shores of Hudson's Bay may be styled the *Woody Region*, as the soil is usually covered with magnificent forest trees. The third part stretching to the Rocky Mountains, and northward to the Arctic Ocean, may be denominated the *Prarie Regions*, as it consists for the most part of immense plains devoid of timber, but clothed with luxurient pasture grasses and sedges.

On the banks of the Red River is the Red River Settlement, founded by the Earl of Selkirk in 1813. The population (6523) is composed chiefly of emigrants from the Highlands of Scotland, together with retired servants of the Hudson's Bay Company, and a few native Indians and half-castes. The soil is fertile, and produces large crops of grain ; and there are natural forests of oak, elm, maple, and pine. The settlers possess great numbers of sheep and cattle, and most of the domesticated animals of Britain have been introduced. The rivers freeze in November, and open in April, but Lake Winnipeg remains frozen till the end of May. This is the only colony to be found in the immense tract of country known as Rupert's Land. It has a Governor, Council, Recorder, Sheriff, Coroner ; and Trial by Jury has also been introduced.

The Nelson and Missinippi, or Churchill, are both considerable rivers. The Nelson flows from Lake Winnipeg, which receives the large river Saskachewan (formed by two great branches which both rise in the Rocky Mountains) besides the Red River and other streams. From the source of the Saskachewan to the mouth of the Nelson, the length of the river is about 1400 miles. The Churchill, or Missinippi, or English River, rises in the centre of a great plain, and has a course of about 900 miles.

The most distant source of the Mackenzie is the River Athabasca, which flows from the foot of Mount Brown in the Rocky Mountains, and enters Lake Athabasca, after a course of nearly 700 miles ; from this lake, the stream called the Slave River flows into the Great Slave Lake, receiving on its way the Peace River, which also rises in the Rocky Mountains. The River Mackenzie (properly so called) issues from the western extremity of Great Slave Lake, about 200 miles below which, it is joined by the River of the Mountains, or Au Liard's River, the waters of which are derived from the western side of the Rocky Mountains. Reckoning from the source of the Athabasca to the mouth of the Makenzie, the distance is 2160 miles, and during the summer it pours an immense flood of water into the ocean; but during nine months of the year it is obstructed by ice.

The watershed between the basins of the Mackenzie and the Mississippi consists of a gentle rise of land called the Cateaux des Praires, the most elevated part of which does not exceed 2000 feet above the sea, and in some cases the head waters of the rivers belonging to the different basins communicate with one another, either by temporary channels formed during the rainy season, or by permanent water courses. Thus the sources of the St. Peter's River, a tributary of the Mississippi, are only separated from Lake Travers, (which discharges a stream into the Red River of Lake Winnipeg, and thence by the Nelson into Hudson's Bay,) by the portage of two miles, which is perfectly level, and is sometimes inundated in the rainy season, so as to enable boats to pass from one river to the other.

A still more striking instance occurs in the case of the rivers Churchill and Mackenzie; and it is recorded that Sir George Simpson said he could fill his kettle for breakfast, at the same time, out of the head-waters of the Columbia which flows into the Pacific, and the Saskachewan which flows into Hudson's Bay, these waters not being 14 ft. apart. The readers of the Australian Journal of Education may form some idea of the delightful nature of the climate of this part of the earth's surface, when they read that at Fort Franklin, on the western side of Great Bear Lake, there is a mean annual temperature of 14 degs. below freezing point; a minimum heat of 58 degs. below zero, and a maximum heat of 80 degs. Fah. At Fort Chippewuyan, on Lake Athabaska, there is no cultivated vegetation. Coarse grass is yielded by the swamps, and cut for the few cattle required for the station, which have to feed on fish when this source fails. Mean annual temperature 2 degs. below freezing point. At Fort York the cold in winter is fearfully intense, the thermometer decending sometimes as low as 50 degs. below zero. In rooms containing a fire constantly, brandy freezes into a solid substance. In summer the surface thaws to the depth of 10 or 12 inches, and becomes a clammy mud; and but for supplies imported from more temperate regions existence would be impossible.

The Hudson's Bay Company was established in the reign of Charles II., for the prosecution of the fur trade. Its territorial jurisdiction, which was originally limited to the tract of country drained into the Hudson's Bay, became subsequently extended over the whole vast region stretching from the Atlantic coast of Labrador to the coast of the Pacific.

(To be continued.)

ELECTRICITY.

No. I.

In examination of the causes of some of the physical phenomona of our planet, electricity is found to be a most important agent. There are various theories regarding electricity. Some conceive it to be the result of a certain state of matter; others that it is owing to a peculiar form of matter. It is generally supposed to be the rotation of particles of which a body is composed. It is a material body, attractive of the particles of all other bodies, and repulsive of its own.

History.—Some of the effects of electricity were known to the ancient sages of Greece, B.C. 600, as, for instance, the property of amber, when rubbed, of attracting light bodies, as feathers, &c.; the shocks felt from the torpedo or electrical eel; and that if friction be applied to certain bodies, they will emit sparks.

For the next 2200 years, the science may be said to have been asleep; and in the year A.D., 1600, it received its present name from the property of *(electron*, Gr.*)* amber, already stated. It was at this period that Dr. Gilbert mentioned that other bodies besides amber had the property of attracting light bodies.

In 1729, Stephen Gray, a pensioner, showed that certain bodies would transmit electricity to a certain distance, as copper and iron, and silk would not, except when wet.

In 1732, Du Fay pointed out that it was owing to the moisture bodies contained, which gave them the property of conducting electricity.

Ten years later (1742) a German invented a circular electric machine; and in 1746, a remarkable discovery took place. Von Kleist, or as some say, Cuneas had his hands on the outside of an electric machine, the chain of which was dipping into a vessel of water. On tasting the water he received a shock. Another version of this story states, that while Cuneas seized the vessel with one hand, and attempted to remove the chain with the other, he felt a shock, which greatly frightened him. Hence the discovery of the Leyden Jar from the consequences of this accident, resulting from an experiment of Muschenbroek, which Cuneas was repeating at Leyden.

Electricity, like the sciences of heat, the steam-engine, chemistry, &c., has not been the growth of a moment: many philosophers have assisted in bringing it to its present state of perfection; but, undoubtedly, it is only within the last sixty or seventy years that it has become worthy of the name of a science.

KINDS OF ELECTRICITY.—There are two kinds of electricity, *static* and *dynamic*. *Static* is that form of electricity for which a condition of *rest* is necessary. (Derivation—*statœs*, Gr., *standing*.) It possesses very *little quantity*, but *high intensity*. We judge of the quantity of electricity by its effects on heating metals, and of its intensity by the distance over which it will pass.

We know all forms of electricity by their effects. The characteristic of *dynamic* electricity is *vast quantity* with *small intensity*. (Derivation—*dunamis*, Gr., *power*.) The effects of static electricity on bodies is very small: it will not melt bodies, and it may pass through our bodies without producing any considerable effect.

The *sources* of static electricity are:—electricity produced by an electric machine—hence sometimes called machine electricity; friction of bodies; lightning, &c. Faraday has found that the intensity of the electricity of a cloud is not greater than that used for the decomposition of a drop of water.

Dynamic electricity is sometimes called Galvanic, and is generated by galvanic batteries. Its intensity is so small that it will not diverge the gold leaves of an electrometer; but it will deflect a magnetic needle, if carried round it. It has not yet been proved that this kind of electricity can pass over any measurable space. Its calorific power is so great that it will melt a platinum wire, which all the combined furnaces of the world would fail to do.

Children will best remember the chief properties of these two kinds of electricity, by recollecting that *hi* in the word mac*hi*ne of machine, or static electricity, is symbolic of *high intensity*: then it has *little quantity*. They know that dynamic electricity is reverse, and has, therefore, *low intensity* but *vast quantity*.

THEORIES OF ELECTRICITY.—Notwithstanding this twofold division according to the intensity or energy manifested by the particles of electricity, each of these divisions has been found to consist of two kinds, differing materially in their properties and effects.

DU FAY'S THEORY.—If a glass rod is electrified by rubbing it briskly with the hand, and held near small feathers, they will be at first attracted and then repelled. If a similar experiment is made with resin or a stick of sealing wax, similar results will be produced. Again, a feather repelled by an electrified glass rod, will be attracted by an excited piece of sealing wax; and, a feather repelled by an electrified stick of sealing wax, will be attracted by an electrified piece of glass. Hence, the electricities produced by these substances must be of different species. The former, Du Fay, called *vitreous* electricity, (derivation—*vitrum—glass*, Lat.) and the latter he designated *resinous* electricity, on account of its being produced by the friction of *resinous* substances.

This was Du Fay's theory of electricity, and his statement, founded from the numerous experiments which he made, was "that similar electricities repel, but opposite electricities attract each other; and that matter and electricity manifest a mutual attraction. Thus, two bodies charged either with vitreous or resinous electricity, will repel each other; but, if one is excited with vitreous and the other with resinous, they will attract one another.

Dr. Franklin's Theory.—According to Dr. Franklin, there were also two kinds of electricity. He said, that all bodies contained a certain amount of electricity; and that when a body contained *more* than its natural share, it was *plus*, or *positively* electrified, but when *less*, it was *minus*, or *negatively* electrified. The vitreous electricity of Du Fay corresponded to the positive of Franklin, and the resinous to the negative. Each of these theories has its respective merits, and while Dr. Franklin's is the one generally adopted, there are very strong arguments in favor of Du Fay's.

Positive electricity is known by leaving the point of a wire in the form of a pencil or brush: negative, in the shape of a star.

When electricity is passed through a card or paper, there is a burr perceived at both sides, a fact which tends to prove the correctness of Du Fay's theory; besides, it is not easy to understand how the mere absence of electricity, according to Franklin's view, can cause repulsion in bodies *negatively* electrified.

W. Smith.

Cowra.

TRIALS, AND REWARDS OF TEACHERS.

We give the following Paper as the views of a correspondent, believing that they are worthy of consideration.

There is no path in life without its peculiar trials and annoyances, but, perhaps, in none more than in that of a teacher, are they so hard to bear, from their very insignificance, their constant occurrence, and the difficulty of overcoming them. But the reward is proportionably great, not that it is generally very tangible, quite the contrary, it lies in the teacher himself. It is in the consciousness that, by his efforts, he is serving his country in moulding the child—the father of the man—into a good citizen. Who, besides the parents, has so much influence on the child's training as the teacher? None. In what then do these trials consist and whence do they arise? I purpose attempting in this paper to point out that they arise from the children themselves, from their parents, from committees or local boards, and from the teacher himself.

Trials.

I.—*Those arising from the Children.*

(*a.*) Indolence. This is a great trial to a teacher, and must be overcome at once by finding out the cause of it. Do you give them *sufficient* to do? Have they plenty of oral teaching? If so, you will soon draw them out of the clay and mire and enable them to walk on high ground. If this is not quickly done they will go on to Giddiness, and from that to Disobedience. To gain your point you must exercise firmness of purpose, with kindness of manner. Be as firm as a rock, but as kind as a mother. Not rigid at one time and lax at another. Let them see in *you* a living illustration of what you expect them to be. Do not condemn to-day what you permitted yesterday, or punish for a fault to-day that was yesterday passed unnoticed.

(*b.*) Disobedience. Home influence, no doubt, has had something to do with it. You must study the child's temper, taste, habits, and conduct. You will then soon conquer this difficulty. A very small matter will gain a boy's heart. Do not punish in haste. Strive to gain the affections and confidence of children. To do this you must be calm, moderate and just in correcting. If children are taught effectually to obey at first they will easily be induced to obey ever afterwards.

(*c.*) Daily Trials: such as ignorance, backwardness, carelessness, forgetfulness, and sometimes, insolence. These are only to be overcome by patience and perseverance. Remember—the child, like the man, "is a bundle of habits."

II.—*Those arising from the Parents.*

(*a.*) Indifference. Very often children are kept at home when something very trifling is required to be done; *e.g.*, Nurse the baby while mother is washing, &c. Some parents consider the school a very convenient place to get rid of the children "when they are in the way," as they term it. This is a very sad trial to a teacher. What is to be done? Call on the parents *occasionally*. In what way? Not "to blow them up," as they call it, for if you do that, it is very likely you will get the door shut in your face. You must avoid all pride, and go as a *friend*. Strive to get the mother on your side and the battle is won. Very few kind words will do the business. If you succeed in getting the mother on your side, you will be "a fine man" directly. Tommy will be sent to school every morning at proper time, with clean face and boots--your lessons will be reproduced at home. Tommy will draw maps for his father on his slate, pointing out to him the places Uncle Jim saw when he went to the diggings, &c, Thus, in a very short time you will gain the affections of the whole family.

(*b.*) Ignorance. You must not be harsh with parents, because, doubtless, in some cases, their own education has been neglected. Remember they do not see things in the same light that you do.

(*c.*) Unreasonableness. The majority of parents embrace the idea that nothing, or very little depends on *them.* If they neglect to send their children to school regularly and at proper time, and they make little or no progress, of course it is the master's fault directly. What is to be done now? Pay them a visit, and endeavour to show them that it is their *duty* to help you, for in doing so they are helping themselves. Do not be harsh with the child if he is *sometimes* late and dirty. Find out the cause first. He may have a rash and thoughtless father, or a careless frivolous mother. If this is the case, have compassion on him, and make his case a matter of deep consideration.

III.—*Those arising from the Public.*

The teacher very often finds that the members of his Local Board seldom or never come near his school. They take no interest in him or his work. "Do what you like, only don't bother us," is their language. For aught they know the teacher may be very lazy or indifferent as to the interests of the children, or he may be very industrious and persevering. They never call to see his school or to give him a word of encouragement. If the inspector happens to be there examining, *one* may call on that particular day to keep up appearances, but at no other time. What is the teacher to do? I would say, Make it worth their while to come. Perhaps your predecessor has been injudicious in his intercourse with them, and they, very naturally, are offended. Always receive them with that respect they are entitled to. Always have something to show them, and something to tell them, and you will gradually provoke an interest in your work. These remarks apply equally to the public at large.

IV.—*Those arising from himself.*

It is well at all times to look within.

(*a.*) Depression of Spirits. He thinks the children are making no progress, or that the inspector has no conscience. To overcome this trial he must strive to take a cheerful view of things and persevere.

(*b.*) Pride and Vanity, which are nothing more than a mental intoxication. These are to be overcome by endeavouring to see ourselves as others see us, and to cultivate that spirit of simplicity and genuineness which form the character of childhood.

ENCOURAGEMENTS AND REWARDS.

1. From the children: Affection and prompt obedience.
2. From the parents: Gratitude, attention to your wishes, and new habits in Tommy.
3. From the public: Social and national regard.
4. From himself: Delight in his work, and an approving conscience.

Let your Motto be:—

"*Patience et longueur de temps*
Font plus que force ni que rage."

SQUEERS.

SNAKE POISON ANTIDOTE.

As the bite of the Snake is so frequent and so fatal, we hail with satisfaction the discovery of any antidote that can be readily and safely applied. We therefore give the following experiments in snake-poisoning by Professor Halford.

"The subject of snake-poisoning is one that interests every family in Australia, and we know not how soon another fatal accident may occur; but beyond this, in India, America, and now in England, scientific men have begun seriously to work at this subject.

"The following five cases are simply given as an enstalment. The results certainly are encouraging, and I should not have the slightest hesitation in applying the same treatment to any unfortunate fellow-creature severely bitten. To carry it out requires only a small solution of ammonia of the strength of one part of strongest liquor ammoniæ, and two parts of distilled water, and an ordinary hypodermia syringe. The ammonia is thrown directly, but gradually, into the blood by puncturing any superficial vein, and may be repeated as its beneficial operation ceases.

"This mode of treatment need not be limited to snake-poisoning, but might, perhaps, be extended to opium-poisoning, or to that resulting from infection, as in fever, cholera, &c.

"Case 1.—October 23—Small dog bitten by tiger snake at 2 p.m. Began vomiting and purging at 4 p.m., and continued more or less in the same state all night. October 24—Dog seemingly nearly dead; total paralysis, but quite sensible. Injected at slight intervals into the right external jugular vein 35 minims of the ammonia solution. The dog improved directly afterwards, the circulation and breathing being freer. October 25—Continued in the same state. October 26—Repeated the injection, but into the left vein. From this he gradually improved, and on the 31st could run about and eat well.

"Case 2.—October 28—Inoculated, at 20 minutes to 11 a.m. a small white dog with the contents of one poison-gland of a tiger snake. In 25 minutes vomiting and purging came on. Interjected at once 10 drops of the solution into the external jugular vein. Vomiting continued. At a quarter past 12 threw in another 15 drops. After this the dog appeared quite easy, and began to eat and drink by 4 p.m., and is now quite well.

"Case 3.—November 2—Inoculated a middling-sized dog at half-past 10 a.m. Vomiting and purging came on at half-past 11 a.m. Injected 10 minims of the solution into one external jugular vein, and presently after twenty more minims into the other. From this time all the symptoms of poisoning ceased, although from the severity of the inoculation the dog only now runs about freely (large sloughing sores having formed).

"Case 4.—November 2—Inoculated a dog with the contents of one poison-gland at a quarter to 11 a.m. Vomiting and purging commenced at half-past 11. At a quarter to 12 injected 20 minims of the solution. From this time the dog rapidly improved, all symptoms of poisoning disappearing, and is now quite well.

"Case 5.—November 4—Inoculated, at half-past 10 a.m., a small black dog which had been previously in the snake box, with the contents of one poison-gland. At ten minutes to 11 vomiting and purging (bloody) commenced.

Injected 20 minims of the solution. The dose seemed rather strong for so small a dog, but in a minute after every symptom of purging and vomiting ceased, and after waiting nearly an hour, I, with two friends, left, satisfied the dog was saved, but on my returning in another hour the dog was dying. Other engagements prevented my attending further to the animal. On examining the body a few hours after I could detect no trace of the ammonia; the urine was acid, &c. I therefore conclude that the volatile alkali had too soon passed out of the system, and that another injection might perhaps have saved him.

"There is one very remarkable and hopeful feature in all these cases, including the fatal one, which is that immediately after the injection of the ammonia the animal seems in perfect ease, the breathing becomes easy, the vomiting, &c., ceases.

"I do not say these cases are sufficient to establish the treatment; but as I shall not be able for some days to continue these experiments, I have thought it my duty to publish these few results at once.

Since the above was put in type, we read with much satisfaction, the following telegram in the daily press in this city:—

"A snake bite has been cured, after the patient become insensible, at Beechworth, by Professor Halford's method of injecting ammonia into the veins.

INTELLIGENCE.

Teachers' Mutual Insurance.

In our last issue we mentioned that the Committee appointed at the meeting of Teachers held at Fort Street on the 17th October, to consider the scheme of mutual insurance then submitted, had forwarded the scheme to the Council of Education, with the view of obtaining the Council's assistance in perfecting and working it. Mr. Rutledge, the Secretary of the Committee, has received the following reply:—

" Council of Education Office, Sydney, 27th Nov., 1868.

Sir,—Referring to your letter of 24th October last, inclosing copy of resolutions respecting a Teachers' Mutual Insurance Association, I have the honour, by direction of the Council of Education, to acquaint you that the subject is still under consideration, and that a further communication will be made to you when the Council has arrived at a decision. I have the honour to be, Sir, your most obedient servant, R. E. Webster, pro Secretary.

Mr. James Rutledge.

Victoria.—Report of Board of Education for 1867-8.

Schools in Operation, Average Attendance, &c.

The number of schools in operation on the 31st March, 1868, was 772, comprising 819 departments, viz., 30 boys, 32 girls, 27 infants, and 730 mixed. The average attendance for December, 1866, showed a considerable diminution caused by sickness, which was so generally prevalent in the colony at the end of that year. The demonstrations consequent on the arrival of H.R.H. the Duke of Edinburgh, also caused a considerable decrease in the attendance for December, 1867, which fell below that for the previous month by 3,955 children on the rolls, and 4,331 in average attendance.

But comparing 1867 and 1866, an increase of 47 schools, 5,760 pupils on the rolls, and 4,127 in average attendance was found.

The number of pupils on the rolls on the 31st March, 1868, was 77,388, and in average attendance, 58,333, being an increase over the year 1867 of 5,619 on the rolls, and 4,802 in average attendance.

The per centage of the total population on the rolls of schools had increased from 10·82 to 11·64, and in average attendance, from 8·06 to 8·8, so that, at the date of last returns, one out of 8·59 persons of the population was on the rolls of the Common Schools, and one out of 11·56 was in average attendance.

PROPORTION OF CHILDREN AT SCHOOL AGE ATTENDING SCHOOLS.

From returns furnished by the Registrar-General, it appeared that the per centage of population at all ages between 5 and 15 years was estimated at 24·56, giving the number on the 31st March, as 163,218. The per centage of children attending Common Schools under 5 and above 15, might be estimated at 16 per cent., viz., 14 per cent. under 5, and 2 per cent. above. This made the total number of children attending Common Schools for the year ending March, 1868, between 5 and 15, to be 85,601, or 52·45 per cent. of total population between those ages; and assuming the same proportion for other than Common Schools, the number between those ages attending such schools, was 14,484, or 8·87 of the total population.

It would thus appear that 100,085 children between those ages were attending school, or 61·32 per cent., being 1·63, or nearly 2 out of 3 of the total number.

REGULARITY OF ATTENDANCE AS COMPARED WITH OTHER COUNTRIES.

The Common Schools were open, on an average, for 230 days, or 46 weeks in the year. The actual attendance given by each child on the rolls was 132 days, or $26\frac{2}{5}$ weeks, showing that each child attended 57·39 per cent. of the time school was open. This statement of attendance compared favourably with the state of matters both in England, Ireland, and America. The Rev. J. Fraser, in his report to the Royal Commission on Education in England, showed that, in the United States, the average number of days of attendance for each child in the year did not exceed 106 days. In Canada, out of 360,000 children enrolled, considerably more than one-half attended school less than 100 days, and less than 17 per cent. attended school 170 days.

In England, the number of days of attendance did not exceed 129 days.

In Ireland, the average attendance was only 34·72 per cent. of the total number, while in Victoria it was 48·68 per cent.

STATISTICS OF EXAMINATION.

Number of children presented and passed under standards from 1st January, 1867, to 30th June, 1867:—

Number Presented.	Passed in Reading.	Per Centage.	Passed in Writing	Per Centage.	Passed in Arithmetic.	Per Centage.	Passed in Grammar.	Per Centage.	Passed in Geography.	Per Centage.
37,799	26,150	69·18	24,961	66·03	18,065	47·78	5,452	14·42	6,090	16·11

FINANCE.

The amount voted for the service of 1867, was £182,618 6s. 8d., as under:—

Fixed salaries	110,726	6	8			
Augmentation for honours	2,000	0	0			
				112,726	6	8
Results	27,500	0	0			
Destitute scholars	14,000	0	0			
Training	1,650	0	0			
Singing and drawing	1,600	0	0			
Office establishment	4,492	0	0			
Inspection	5,650	0	0			
Miscellaneous expenditure	3,000	0	0			
				57,892	0	0
New Schools.						
Salaries to new Schools for six months	4,000	0	0			
Buildings and repairs	8,000	0	0			
				12,000	0	0
				£182,618	6	8

NEW PUBLICATION.

"*Songs for Home and School.*" BY J. C. FISHER.

THIS little work contains about a dozen School Songs, arranged for one, two, and three parts, in the Tonic Sol-fa Notation.

The musical part is the composition of Mr. Fisher, and certainly exhibits no falling off in his happy way of combining the beauties of harmony with simple and pleasing melody.

The work is well got up, the type is clear, and the size and form convenient. The price at which it is published places it within the reach of children as well as teachers, thereby satisfying a want long felt by many. This is the first successful attempt at the publication of a work of this kind in the colony, and we strongly recommend it to the notice of those engaged in teaching, or in the study of the new notation.

ORIGINAL CORRESPONDENCE.

(Writers of all communications intended for publication in this Journal must furnish us with their names, not necessarily for publication, but as a guarantee for good faith and correctness. The Conductors of the Journal are not responsible for opinions expressed by correspondents.)

DR. MORELL'S GRAMMAR.

To the Editor of the Australian Journal of Education.

SIR,—On reference to No. 5 of your valuable Journal, I am reminded of a duty, which, being put off for a variety of reasons, has been neglected since May last. Perhaps R. P. has so far recovered his usual equanimity as to be able to observe that in my few remarks anent his observations, I did not venture to give him any information, and he need not have been sarcastically humble because I did not agree with him "*in toto.*" If I had so agreed what would have been the use of my writing, except as one who wished to urge on a forward boy and get him into a scrape.

But to my duty, which is to answer some of R. P's. queries, though I am not at all sure that he wishes them answered. I meant to say then, that a proper noun in a transition state is one that is becoming to be used as a common noun. I doubt whether *metonomy* can be said to be in common use in a second class in our primary schools. Abstract nouns are not recognised by the senses. My authority for using *rational* in the sense I did use it, seems to me to be justified by the use of the geographical expression *rational* horizon. I have nothing to say about "a" and "the" in Greek. I am something in the same position as Ben Jonson reports Shakespeare to have been in, "I have a little Latin and less Greek." I only referred to De Quincy, one who could converse in Greek when he was some thirteen or fourteen years old, as he tells us in his "Confessions of an English Opium Eater."

When I wrote of the "Construction of Verbs and their Cases," I had no idea that I was expressing myself unintelligibly; I meant the cases which the verbs govern in the construction of a sentence; I do not yet see any impropriety in speaking of such cases as "*their* cases;" I may be wrong, but it was no misprint, and I do not wish the printer to bear the blame of my mistake, if it be one.

I once asked the very question which R. P. asks me, about the Latin verb constructed with two cases, of an Oxford graduate whom I have heard commended by the late Dr. Woolley, for his excellence in Latin Composition; and he said that the two cases were governed by the verb.

On reference to Mudvig's Latin Grammar, I find "some verbs, which do not in themselves denote a complete action, take besides the object itself the accusative of a substantive or adjective, which constitutes a predicate of the object, and serves to complete the notion of the verb." One of his examples is "Populus Romanus *Numam regem* careavit. This is a case of apposition. But take the following, "Hannibal *copis Iberum* traduxit," where the verb being compounded of a preposition *trans* with the verb *duco*, the preposition and the verb seem both to be accommodated with an accusative.

In another place the same author says "many transitive verbs express an action, which besides the object acted on, concerns another person or thing with reference to which it is performed, and therefore take two substantives, the proper object (that which is acted on) in the accusative, and an *object of reference*, to which the action is directed, in reference to which it is performed in the dative: "dedi puero librum."

"In English," he says in another place, "the referential relation is usually denoted by prepositions. In Latin *ad* can only stand when an actual motion to a place (or to a person in a place) is intended." There is a difference to be noticed between "*dare alicui litteras*," and "*dare litteras ad aliquem*."

Again I find it written "some few verbs, all of which have for their object a person (or something considered as a person,) may take another accusative, in order to denote a more remote object of the action, viz :—"doceo" e.g. "docere aliquem litteras." But we find also the construction *docere aliquem de aliqua, re* signifying to acquaint with something.

I think we may fairly conclude from the above that the verb in Latin does often govern two cases; and that my friend is wrong in his supposition about the preposition understood.

I had no idea of writing such a long letter when I began, but however useless some people seem to deem grammatical studies, I find them rather fascinating than repulsive. I laid down "Thomson's Laws of Thought" to write this letter, intending to resume my study again in a few minutes; and I find I have been hours engaged instead of minutes, and the "Laws of Thought" will have to wait.

I am, Sir, yours respectfully

Trotbury, 17th November, 1868. LITERAPHILUS.

SHALL OR WILL.

To the Editor of the Australian Journal of Education.

SIR,—I had not time last month, *i.e.* before the 20th, for I did not receive your issue No. 10, before it was too late to reply immediately to "Scrip's" letter, wherein he gives me a few *verbera pennæ*.

He asks you "Should not 'I will be' in the last line, on page 267, be 'I shall be'"? By this interrogation he means to insinuate, I suppose, that my expression is incorrect. He, perhaps, is a faithful adherent of Dr. Morell's enunciation, that to express simple futurity, *shall* is used in the *first* person, and *will* in the *second* and *third* person. This may be very good, but it all depends upon the intention of the speaker or writer, whether *will* or *shall* is correct, when a future event is spoken of. Another authority says, "There are *two* ways in which we may speak of a future event. We may simply *predict*, or we may *promise* that it will take place. When the proposition which delivers the assertion is simply *predictive*, it means that something will happen hereafter, but says nothing about the intention of the speaker (or, of course, *writer*) in regard to it. The *promissive* expression brings in the intention or will of the speaker." Now apply this last quotation to the expression which is disputed by Scrip and see if it will not pronounce judgment in favor of your humble servant, the defendant in this case. "The person, however, (quoting from the same latter grammarian,) who uses *shall* as the predictive, uses it for the *first* person only, reserving *will* for the *second* and *third*, and vice versâ, the word *will* is promissive only when conjoined with *I*. The promissive for the *second* and *third* person is *shall*." I think I know better what I meant to say than Scrip possibly can. He surely will now allow that I was right in what he thought was wrong. If he finds fault with the expression in the last line on page 267, I wonder he did not notice a similar expression at the close of the second paragraph of my letter on the same page, in which he finds fault with me for saying that "*forth*" is not an extension. Do I mistake his meaning, when I understand him to call "forth" a *preposition*, when he writes, "There are cases in which the analysis is very much simplified (I wish he had adduced examples) by putting a *preposition* with the verb in the simple predicate, *this* is not *one* of them?" I wish he had given me his reasons for his anathemata. It is the *ne plus ultra* of folly to condemn a person without assigning a cause. Wishing "Scrip" good night,

I remain,
Yours faithfully,
Oxoniensis.

To the Editor of the Australian Journal of Education.

Sir,—Agreeably to the invitation at the conclusion of the article on "School Rules," in No. 9 of the Journal for September, I venture to enclose for your perusal a "code," which was adopted by common assent of the whole school in February last. It is quite understood that the intention of the rules is towards the happiness of the scholars; and that they offend against their own laws, and are punished by their own laws, not by the master.

The "lines" are written on slates, at the luncheon recess, from some appropriate maxim, which has to be written over so many times until the number of lines is completed as required by the rule.

Believing that something of the kind is very beneficial, I shall gladly remodel them from suggestions that may hereafter be thus brought forward should you deem them deserving a place in your next number.

I beg to remain, Sir,
Your obedient servant,
J. P. Sharp.

Public School, Pennant Hills,
17th September, 1868.

Rules Adopted and Sanctioned by the School.

1. Every proper noun written not beginning with a capital letter, such noun is to be written over fifty times.
2. For every blot or letter smeared in the copy books, or the copy book disfigured in any way, inside or outside, for each offence fifty lines.
3. Any one disturbing the class during a silent lesson by asking questions or talking to another, so as to cause a pupil's attention to be drawn from the lesson; for every offender one hundred and twenty lines.
4. Anyone using vulgar or profane language, or nicknames to another in the playground, schoolroom, or on the way to or from school; for each offender one hundred lines.

Signed by the first (boy or girl) in each class.

Dated February 7th, 1868.

NOTICES TO CORRESPONDENTS.

Comfort, not Luxury.—Call the attention of the inspector to the matter of which you complain; he will doubtless assist you in getting the necessary repairs effected.

H. A. Cobb, P.S.F.—A commencement has just been made in the publication of a work on the Tonic-Sol-Fa system, and we trust its talented author, Mr. Fisher, will meet with the encouragement he deserves for his spirited undertaking.

X. G., F. W. K., S. B. C., A. Howard, and Arith. Received.

Ideo.—The matters to which you refer have been under consideration.

Scrip, J. W. H., and R. P.—We think you might prepare the series of which you write, but of course their publication would depend on their suitability for our pages. The pleasure which their preparation would afford, would be, in itself, no small compensation for the labour.

Ignoramus, A. Lansdown.—If you attend to the papers headed "Specimens of Parsing and Analysis," to appear in this journal during the next year, you will have all these matters explained. Morell's Grammar is not regarded as a standard in all respects by the Council of Education.

D. Ritchie, Rustic, and others.—As Superannuation and Insurance are now under the anxious consideration of the Council of Education, we do not consider it desirable to devote so much of our space to such a discussion as the insertion of further correspondence on this topic would lead to.

W. W. B.—We believe such a work as that to which you refer is not to be had in Sydney.

We earnestly desire those who favour us with contributions on scientific subjects, to be as simple and yet as instructive as possible, taking care while they use technical terms, to give with them their popular signification.

We desire to draw the attention of correspondents to a practice in which some have indulged, of sending us questions and articles not original, without giving the title of the works from which they are taken. Plagiarism of this kind we hope will be discontinued.

Communications may be written on foolscap or note paper, and on one side only, the sheets to be left whole.

QUESTIONS FOR SOLUTION.

1. Give the Roman numerals for 11,000, 97,000, and 490,000.

2. In a factory where 28 men, 18 women, and 30 boys are employed, 780 articles can be prepared in 3 days, 3 men being able to do as much as 5 women, and 7 women as much as 9 boys. How many men must be employed to prepare 1,260 articles in 6 days without the aid of the women and boys?

3. A person pays 30 shillings per month into a Building Society, and at the end of two years he receives a loan of £500 at 10 per cent. In what time will he have it refunded if he pay £4 monthly, including his subscription?

4. The diameter of a circular estate is 25 chains; what is the length of the chord which divides it into two segments, whose areas are to each other as 2 to 1?

5. If the death rate in England be 24 per 1,000, and the proportion of deaths as stated in page 379 of No. 11., how many of these 24 belong to the various ages therein mentioned?

6. A teacher is on a visit at a place where he has occasion to work a sum requiring the aid of logarithms; the tables not being at hand, how may he construct the logarithms for himself, say for the number 7?

7. The opposite sides of any equi-angular rectilineal figure must be parallel if the number of sides are even.

8. Analyse in detail, and parse the words in italics, the following passage from Poe's "Al Aaraaf":—

> Away, away, 'mid seas of rays that roll
> Empyrean splendours o'er the unchained soul—
> The soul that scarce (the billows are so dense)
> Can struggle to destined eminence—
> To distant spheres, from time to time she rode,
> And late to ours, the favoured one of God;
> But, now, the *ruler* of an anchor'd realm,
> *She* throws aside the sceptre—leaves the helm,
> And, amid incense and high spiritual hymns,
> Laves in quadruple light her angel limbs.

S. B.

ANSWERS TO QUESTIONS IN No. 10.

Question 9.—Answered by E. Hewison, Arith, Marulan, W. and J. Hullick, D. Treehy, T. C., R. H. L. H., W. J. Huggart, Philelpis, E. B. Debelle, Seven Hills, A. B. A., Scratch, C. H. B., and Philomath.

The only point of discussion is whether "air" or "stillness" is the Subject. Much is to be said on both sides; and correspondents' opinions are pretty equally divided. The answer by Philelpis is subjoined.

ANALYSIS.

All the . . .	Enlargement of Subject.
air	Simple Subject.
holds . . .	Simple Predicate.
a solemn . .	Attribute.
stillness . . .	Object.

[Simple Sentence.—EDS.]

PARSING.

All	Adjective, limiting "air."
the	Definite article, prefixed to "air."
air	Common noun, third person, singular, neuter, nominative to "holds."
a	Indefinite article, prefixed to "stillness."
solemn	Adjective, qualifying "stillness."
stillness . . .	Common noun, third person, singular, neuter, objective governed "holds."
holds	Transitive verb, third person, singular, present, indicative, agreeing with "air."

Question 10.—Answered by E. Hewison, Arith, Nescio, Marulan, W. and J. Hullick, D. Treehy, T. C., R. H. L. H., W. J. Huggart, E. B. Debelle, Seven Hills, J. Cameron, Blackboard, and P. Downey.

Considerable difference of opinion regarding the parsing of the words "or," "best," "till," and "unknown" is expressed. Several replies are incomplete; for example, in some the detailed analysis is omitted; and in others, in parsing a word, the part of speech merely is told, and the *office* or *function* is omitted.

We would recommend our correspondents to adopt the form of parsing and the technical terms given at the end of the Council's "Standard of Proficiency."

As Arith's analysis makes the nearest approach to our own view, it is subjoined.

GENERAL ANALYSIS.

(*a*.) "When Winter soaks the fields,"—Adverbial Clause to *C* (time), qualifying "falls."

(*b*.) "And female feet too weak to struggle with tenacious clay, or ford the rivulets, are best at home,"—Adverbial to *C* (time), qualifying "falls;" copulative to *a*.

[Co-ordinate with (*a*).—EDS.]

(*C*.) "The task of new discoveries falls on me,"—Principal Clause to (*a*) and (*b*).

A Complex Sentence.

(*A*.) "On such a season, and with such a charge, once went I forth,"—Principal Clause.

(*B*.) "And found, till then unknown, a cottage,"—Principal Clause to (*c*); co-ord. to *A*; copulative.

(*c*.) "Whither oft we since repair,"—Adjectival to *B*, qualifying "cottage."

A Compound Sentence.

DETAILED ANALYSIS.

(*a*.) "Winter," simple subject; "soaks," simple predicate; "the," attribute; "fields," object; "when," extension (time).

(*b*.) "And," connective; "female, too weak to struggle with tenacious clay, or ford the rivulets," enlargement of subject; "feet," simple subject; "are best," simple predicate; "at home," extension (place); or, "are," simple predicate; "best," extension (manner).

["Are best situated" ("situated" being understood), simple predicate, preferable.—Eds.]

(*C.*) "The, of new discoveries," enlargement of subject; "task," simple subject; "falls," simple predicate; "on me," extension (place).

(*A.*) "I," simple subject; "went," simple predicate; "forth," extension (manner); "on such a season," extension (time); "and with such a charge," extension (manner); "once," extension (time),

["forth," extension (place or direction).—Eds.]

(*B.*) "And," connective; "found," simple predicate; "a, till then unknown," attribute; "cottage," object.

(*c.*) "We," simple subject; "repair," simple predicate; "whither, oft, since," extensions of place and time.

["Oft," might be termed extensions of repetition.—Eds.]

The Parsing appended is by "Blackboard," and corresponds with our own opinion.

When . . .	An adverb (time), qualifying the verb "soaks."
fields . . .	Common noun, third person, plural, neuter, objective, governed by the verb "soaks."
female . .	An adjective, qualifying noun "feet."
too	An adverb (degree), modifying adjective "weak."
or	Conjunction, joining the phrases "to struggle with tenacious clay," and "to ford the rivulets."
ford . . .	Transitive verb in the infinitive mood, governed by the adjective "weak."
are	An auxiliary verb to "situated" (understood), third person, plural, agreeing with its nominative "feet," present, indicative.
best	An adverb (manner), qualifying "are situated."
falls . . .	An intransitive verb, third person, singular, agreeing with its nominative "task," present, indicative.
such	An adjective, qualifying "charge."
went . . .	Intransitive verb, first person, singular, agreeing with its nominative "I," past, indicative.
forth . . .	An adverb (place or direction), qualifying "went."
found . . .	Transitive verb, first person, singular, agreeing with its nominative "I" (understood), past, indicative.
till	Preposition, governing "then" (as a noun) in objective case, and shewing the relation between "unknown" and "then."

(*Note.*—"Then," is a *noun*, being the NAME of a *period*. Similarly, we speak of "One long *now*," (= present time); and "A *hereafter*," (= future time); also, "Till *then*," (= that time).

unknown .	An adjective, qualifying "cottage."
cottage . .	Common noun, third person, singular, neuter, objective case, governed by "found."
whither . .	An adverb (place), qualifying "repair."
since . . .	An adverb (time), qualifying "repair."
repair . .	Intransitive verb, first person, plural, agreeing with its nominative "we," present, indicative.

G. Simpson.—Answered by Nescio, Marulan, and Blackboard. Nescio's detailed analysis is incomplete. Blackboard's answer is appended.

General Analysis.

(*A.*) "A swallow observing a farmer employed in sowing hemp, called the little birds together, advising them to join unanimously in picking up the seed,"—Principal Clause to *g*.

(*B.*) "Informed them,"—Principal to *c*, copulative, co-ord. with *A*.

(*c.*) "What he was about,"—Substantival to *B* ("informed").

(*D.*) "And told them,"—Principal to *e*, copulative, co-ord. with *A* and *B*.

(*e.*) "That hemp was the material,"—Substantival to *D* ("told").
(*f.*) "From which the nets, so fatal to the feathered race, were composed,"—Adjectival to *e* ("material").
(*g.*) "In order that no crop might appear,"—Adverbial (reason) to *A* ("advising" or "picking").

DETAILED ANALYSIS.

(*A.*) "Swallow," simple subject; "called," simple predicate; "birds," object; "the little," attribute; "observing a farmer employed in sowing hemp," extension (cause); "together," extension (manner); "advising them to join unanimously in picking up the seed," extension (purpose).
(*B.*) "He" (understood), simple subject; "informed," simple predicate; "them," object.
(*c.*) "He," simple subject; "was about what," simple predicate.
(*D.*) "And," connective; "he" (understood), simple subject; "told," simple predicate; "them," object.
(*e.*) "That," connective; "hemp," simple subject; "was the material," simple predicate.
(*f.*) "Nets," simple subject; "were composed," simple predicate; "so fatal to the feathered race," enlargement of subject; "from which," extension (material).
(*g.*) "In order that," connective; "crop," simple subject; "might appear," simple predicate; "no," enlargement of subject.

ANSWERS TO QUESTIONS IN No. 11.

Question 1.—Correct solutions from Arith, E. Adrian, W. W. B., R. C., J. Cameron, T. Dunlop, W. J. Huggart, Keira, and Rustic.

The following solution is by J. Cameron :—

According to the question £17 worth of £100 is worthless, so that only £83 are of value, and £83 increased by 15 per cent. = £95 9s., leaving a loss of £4 11s., ∴ the cost price will =

$$\frac{94\frac{1}{2} \times 100}{91} = \text{£}103\ 16\text{s. } 11\tfrac{1}{13}\text{d.}$$

Question 2.—Correct from E. Adrain, Arith, J. Cameron, P. Downey, Glenmire, Rustic, and W. H. Wooster.

The following solution is by Glenmire :—

Subtract loss from debts and cash paid is £693 1s. 3d.
Then as £1,421 13s. 4d. : £693 1s. 3d. :: £1 : 9s. 9d., amount paid in £1.
Now 2nd dividend was $11\frac{1}{4}$d., and 3rd dividend 1s. + $11\frac{1}{4}$d. extra;
Therefore 9s. 9d. − 2s. $10\frac{1}{2}$d. = 6s. $10\frac{1}{2}$d., amount of 3 equal dividends at lowest rate, which, divided by 3, gives $\underline{\text{2s. }3\tfrac{1}{2}\text{d.}}$ amount of 3rd dividend, and $\underline{\text{3s. }2\tfrac{3}{4}\text{d.}}$ 2nd, and $\underline{\text{4s. }2\tfrac{3}{4}\text{d.}}$ 1st dividend.

Question 3.—Correct from E. Adrain, Arith, J. Cameron, R. C., T. Dunlop, W. W. B., P. Downey, Glenmire, W. J. Huggart, Keira, Norwood, and Rustic.

The following solution is by Keira :—

£110 : £100 :: £23 8s. $10\frac{1}{2}$d. : £21 6s. 3d., the cost price of the mixture; and 27 × 10s. = £13 10s. 0d.

£7 16s. 3d. The cost price of the wine at 12s. 6d. per gallon.

$$\text{Then, } \frac{\text{£}7\ 16\text{s. } 3\text{d.}}{12\text{s. } 6\text{d.}} = 12\tfrac{1}{2} \text{ gallons, at 12s. 6d. per gallon.}$$

Question 4.—Correct from E. Adrain, W. W. B., J. G., Rustic, (R. Bousfield and R. C. by position).

The following solution is by W. W. B. :—

The whole £3,000 stock yields an annual dividend of £95 10s. ; but at the lower rate of interest, it would yield only £82 10s. The difference between the higher and lower rate ($\frac{3}{4}$ per cent.) is to the difference of income (£13), as 1 cent. is to the number of cents. of the higher priced stock ; that is, $\frac{3}{4} : 13 :: 1$ cent. : $17\frac{1}{3}$ cents. of the $3\frac{1}{2}$ per cents.

And $30 - 17\frac{1}{3} = 12\frac{2}{3}$ cents. $2\frac{3}{4}$ per cents. But $17\frac{1}{3}$ cents, at 92, cost £1,594 13s. 4d. And £2,500 − £1,594 13s. 4d. = £905 6s. 8d., cost of the $2\frac{3}{4}$ per cents.

$$\therefore \frac{\text{£905 6s. 8d.}}{12\frac{2}{3}} = \text{£71 9s. } 5\tfrac{13}{19}\text{d.}$$ Price of the $2\frac{3}{4}$ per cent. stock.

Question 5.—Correct from J. Cameron, T. Dunlop, and Keira.

The following solution is by Keira :—

Let x = the quantity of wine drawn off first time.
Then $125 - x$ „ „ remaining.

$$125 : 125 - x :: x : \frac{125x - x^2}{125}$$ the quantity drawn 2nd time.

$$\text{Then } (125 - x) - \frac{(125x - x^2)}{125} = \frac{(125 - x)^2}{125} = \text{wine remaining.}$$

$$\text{Again, } 125 : \frac{(125 - x)^2}{125} :: x : \frac{(125 - x)^2 \times x}{125 \times 125}, \text{ drawn 3rd time.}$$

$$\text{Then } \frac{125 - x^2}{125} - \frac{(125 - x)^2 \times x}{125 \times 125} = 27.$$

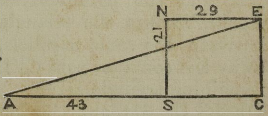
From this equation we get x = 50 gallons, the quantity drawn off the 1st time.

Hence 125 : 125 − 50 :: 50 : 30 gallons, the quantity of wine drawn the 2nd time ; and 125 : 125 − 50 − 30 :: 50 : 18 gallons drawn off the 3rd time.

Therefore, 50 gallons drawn 1st time.
30 „ „ 2nd „
18 „ „ 3rd „

Question 6.—Correct from Arith, J. Cameron, R. C., W. J. Huggart, Norwood, J. Buckley, Keira, A. Henderson, and W. H. Wooster.

The following solution is by R. C. :—



Let E, S, be the positions of the two towns, and A, E, the positions of the two residences. A being 43 miles west of S, N 21 miles north of S, and E 29 miles east of N. It is required to find the distance from A to E.

Produce AS to C, and make SC equal to NE (I., 2, or 3) ; join CE and BA. Now, AEC is a right-angled triangle, because the angle ACE is a right angle.
Now the base AC = AS + SC = 43 + 29 = 72.
The perpendicular CE = 21.
$AC^2 + CE^2 = AE^2$. (Euclid, I., 47).
Therefore $\sqrt{(72^2 + 21^2)} = 75$ = length of AE in miles.

Question 7.—Correct solution by Arith and Keira.

The following is the solution by Arith :—

As the premiums for the first year, with 7 per cent. interest added, amount only to £1,353 2s. 1d., and £1,400 have to be paid, it seems that the concern would collapse at the end of the first year, unless proprietors found some means of staving off the evil day.

Question 8.—Correct solutions from Arith, Keira and A. Henderson.

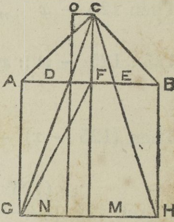
The following solution is by Keira :—

$\frac{500}{14}$ = 36 nearly, the number of terms, 14 = common difference.

14 × 33 = 462, the first term ; and (36 − 1) × 14 + 462 = 952, the last term.

Then by equi-different series, $\frac{(462 + 952) \times 36}{2}$ = 25452, the sum of the series, or the sum of the age of the 500 persons at the time of death. Then $\frac{25452}{500}$ = 50 years, nearly the average age at the time of death.

Question 9.—The following solution is from J. Downey. Several solutions received are, no doubt, correct, but not sufficiently demonstrated throughout.



Let ABC be an isosceles right-angled triangle upon the side of the square ABHG, and let CG and CH be the right lines drawn from the right angle C to the remote angles G and H of the square ABHG : then the line AB is trisected in the points D and E. Bisect the vertical angle C by the line CF (I., 9), and produce CF to M; through D draw ON parellel to CM, and CO parallel to AB (I., 31), and join FG.

Then, because the vertical angle C is bisected by the line CF, the triangles ACF and BCF are equal in every respect (I., 4), and the side AF is equal to the side BF. And, because AF is equal to GM, and BF equal to MH (I., 34), we have in the triangles GMC, HMC, the side GM equal to the side HM, MC common to both, and the angle HMC equal to the angle GMC, and the triangles are equal in every respect (I., 4) ; therefore the angle DCF is equal to the angle ECF. And, because these angles are equal, and the right angle DFC is equal to the right angle EFC, and the side FC common, the two triangles DFC and EFC are equal in every respect (I., 26) ; therefore the side DF is equal to the side EF; and taking these equals from the equals AF, FB, the remainder AD is equal to the remainder EB. (Axiom 3.) Again, because the triangle ACB is isosceles, and the angle C a right angle, the sum of the angles CAB, CBA, is a right angle (Euclid, I., 32, cor. 4), and they are equal to each other (I., 5), and therefore each is half a right angle; and, because the vertical angle C is bisected, the angle ACF is equal to the angle CAF, and the side AF equal to the side FC (I., 6). Then the line AB or FM is double of the line FC or AF, and the parallelogram DFMN is double the parallelogram DFCO. Again, because the triangles CFA and CFG are upon the same base, and between the same parallels, they are equal to one another (I., 37) ; take away the common part CFD, and the remaining triangle ADC is equal to the remaining triangle DFG. But the triangle DFG is half the parallelogram DFMN (I., 41), and this has been proved double of the parallelogram DFCO ; therefore the triangle DFG, or the triangle ADC, is equal to the parallelogram DFCO ; but DFCO is double the triangle DFC (I., 41), or equal to the triangle DAC, for the triangle DFC has been proved equal to the triangle EFC. Therefore the triangle ADC is equal to the triangle DEC, and because these are between the same parallels, they stand on equal bases (6-1 cor.) ; therefore the base AD is equal to the base DE, and AD has been proved equal to EB, therefore the line is trisected in the points D and E.

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